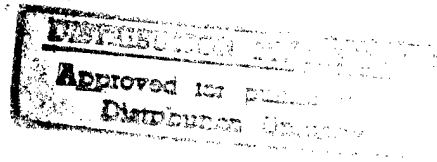


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14 December 1984



# USSR Report

AGRICULTURE

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14 December 1984

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### ENSILING OF HIGH-MOISTURE CORN RECOMMENDED FOR THE UKRAINE

Moscow SEL'SKAYA ZHIZN' in Russian 21 Sep 84 p 2

[Article by A. Babich, doctor of agricultural sciences, director of the Ukrainian Scientific Research Institute of Fodder, Vinnitsa, in the "Scientists Advise" column: "To Preserve the Quality of Corn"]

[Text] Many farms are ensiling high-moisture corn. New technology permits the flow-line harvesting of this crop. This saves a considerable amount of fuel, by eliminating the need to dry the ear corn or shelled corn. The high quality of this fodder depends to a considerable extent on strictly observing technological discipline. The best time to harvest corn is in its stages of wax ripeness or complete ripeness, when the maximum amount of nutrients has accumulated in the plants, there are no losses due to lodging, and the stalks are still green and suitable for silage. The corn from the combines is ground immediately, placed into lined trenches, leveled, carefully packed by means of tractors, and covered with polyethylene.

The process of self-preserving yields a concentrated fodder that long retains its nutritional properties. Depending on the farms' specialization, three kinds of fodder are prepared: ground high-moisture shelled corn for feeding all species of livestock; a mixture of ground corn and cob, with a controlled cellulose content, for hogs; and ground ear corn, for cattle. An SK-5 Niva self-propelled grain combine with a PPK-4 attachment is used to pick and shell the corn when its moisture content is between 26 and 35 percent. The KSKU-6 Khersonets-200 self-propelled, six-row corn-harvesting combine, the tractor-drawn Khersonets-7V, and the tractor-mounted KKP-3 Khersonet-9 combines are used to pick ear corn. The OP-15 corn husker removes the husks from the ears.

The optimal moisture content for ensiling is 26 to 35 percent for shelled corn, and 40 to 45 percent for ear corn. It is risky to ensile shelled corn with a moisture content less than 25 percent, because it long retains its oxygen. Shelled corn with a moisture content of 18 to 20 percent retained over 140 hours sufficient oxygen for the spores of mold-producing fungi to grow. Depending on the initial moisture content, the loss of dry matter in ground shelled corn developed as follows: 1.3 percent at 26 percent moisture; 2.8 percent at 31 percent moisture; 3.8 percent at 37 percent moisture; 4.5 percent at 44 percent moisture; and 6.7 percent at 49 percent moisture.

High-moisture shelled corn and ear corn must be ground before ensiling, to a particle size of 3 or 4 millimeters for cattle, and 2 millimeters for hogs. This is done on modified IRT-165 and IGK-30B feed grinders, and written-off Kolos grain combines. Large-capacity grinders made locally, and Volgar'-5, Vinnichanka and other compartment mills also are used.

The ground high-moisture shelled corn is placed into lined trenches (6 to 9 meters wide and 3 to 5 meters deep). It is best to fill trenches of large capacity in stages, starting from the end wall, at an angle of 36 to 40 degrees. The ground shelled corn is ensiled in layers, in such a way that the length of trench filled in one day is 4 to 6 meters, which corresponds to between 180 and 200 tons of fodder. In the process of ensiling, heavy tractors constantly compact the mass. At the end of each workday, the mass is covered with a cloth made by welding together polyethylene strips. The longer it takes to ensile the corn, the greater the danger that its quality may deteriorate.

The experience of the farms in Vinnitsa, Kiev, Poltava and other oblasts indicates that small trenches can be filled simultaneously along their entire length; but the higher the moisture content of the corn, the faster its ensiling must be completed.

When ensiling high-moisture corn in trenches, care must be taken to ensure that the temperature of the ground mass does not exceed 26 to 28 degrees Centigrade. If the temperature rises, the hot section is treated with preservatives, and the filling, compacting and sealing are stepped up. The optimal degree of compaction is 850 to 900 kilograms per cubic meter. Loss of nutrients increase and the quality of the fodder deteriorates if the mass is compacted less densely.

Immediately after filling and compacting, the fodder is covered with a plastic cloth 0.15 to 0.20 millimeter thick, and then with a layer of clay, sand, earth and peat.

From 94 to 97 percent of the nutrients in the ground corn is preserved. During longer storage there is practically no change in the protein, oil and ash content as compared with the initial raw material. Only a small decline (by 0.96 percent) of the nitrogen-free extractive substances is observed as a result of sugar fermentation.

The feed value of the ensiled ground shelled corn and ears depends on the moisture content of the initial raw material and on other factors. A kilogram of ground shelled corn contains 0.87 to 1.12 feed units; and a kilogram of ground ear corn, 0.67 to 0.81 feed unit. When this fodder was included in the ration, the average daily weight gain of young cattle was 1,000 to 1,116 grams; and that of hogs, 570 to 621 grams.

The new energy-efficient technology of ensiling high-moisture corn does not tolerate shortcuts. Good results are achieved only where technological discipline is strictly observed.

This method is finding ever-wider application on the corngrowing farms of the Ukraine, especially in the forest-steppe zone and Poles'ye where the ripening of the corn crop has been delayed this year and therefore the moisture content of the corn will be high.

Application of the new technology of ensiling corn enables us to increase our resources of feed grain, to solve the problem of storing high-moisture corn, and to improve the composition of feed rations.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### CORN HARVEST PROGRESS, PROBLEMS IN POLTAVA OBLAST

Moscow PRAVDA in Russian 9 Oct 84 p 1

[Article by I. Lakhno, Poltava Oblast: "Proposed by Skilled Craftsmen"]

[Text] Harvesting is coming to an end in Poltava Oblast. The corn crop is a good one too this year. Many enterprises are harvesting 40-45 quintals of grain per hectare, and in leading enterprises yield is even higher. The oblast's farmers, who increased the area in this valuable crop by over 40,000 hectares, did not make a mistake. It is true that the burden on technology has increased. In addition, the tall plants make the work of combines much more difficult. Specialists understand that without the use of additional reserves the harvesting period may be prolonged.

"Let's look for a solution together," proposed the chairman of the Kolkhoz imeni 15 S"yezd VKP(b), A. Korostashov, to machine operators.

They found one. I. Gladkiy was the first to reequip his Niva in a simple way and to take the combine out into the plantation. Things did not turn out badly. Daily output turned out to be twice as high.

The proposal of capable kolkhoz workers was immediately taken up in the rayon's enterprises.

"We supported the initiative of machine operators," noted the first secretary of the Kotelevskiy Rayon party committee, V. Dovgusha. "And we gained an impressive win. The harvesting period was curtailed, and its quality improved."

As soon as other oblast enterprises learned about the experience of Kotelevskiy Rayon farmers, they did not hesitate to utilize them. Thus, about 500 grain-harvesting units were sent into plantations.

But another problem has arisen--how to dry the grains best and how to bring the harvest up to standard. Once again capable workers, this time from Chernova Zirka Kolkhoz of Novosanzharskiy Rayon, bailed us out. Here a simple and dependable drying point with a daily capacity of 100 tons of ears was equipped. Moreover, the drying of 1 ton of grain is much cheaper than with operations



using the regular method. This innovation was immediately introduced in all enterprises of Novosanzharskiy Rayon.

During the intensive period of fall harvesting operations the efficiency of kolkhoz, sovkhos and RAPO directors is being tested. In places where workers were able to assess the situation quickly and to make use of the best innovations success has been noted.

Machine operators of Kolkhoz imeni Stepovoy of Novosanzharskiy Rayon had to harvest corn from 918 hectares. This is a large volume of work. A skilful use of equipment and the use of experience of innovators enabled us to curtail the harvest schedule, to produce over 50 quintals of grain per hectare and to actively carry out grain sales to the state. Similar success was achieved by the machine operators of neighboring Mayak Kommunizma Kolkhoz. The farmers of Kolkhoz imeni Dzerzhinskiy of Poltavskiy Rayon, Peremoga Kommunizma Kolkhoz of Lokhvitskiy Rayon and Kolkhoz imeni Kalinin of Lubenskiy Rayon produced an average of 50-70 quintals of grain.

However, alarming news is also coming from the fields. Thus, in Mayak Kolkhoz of Chernukhinskiy Rayon, in a 2-week period only 67 hectares of corn were harvested using the Khersonets-200 combine.

"We work for a few hours," sighs I. Kharsika, "fill our tractor trailers with ears of corn, and then have to wait until the tractor comes to get them."

It turned out that the organization and quality of harvesting in this enterprise were not on a high level. The senior agronomist of the kolkhoz, A. Dayidenko, laments the fact that machine operators lose a considerable amount of corn on every hectare. The same types of errors are tolerated in other enterprises of Chernukhinskiy Rayon. In a number of kolkhozes and sovkhoses of Piryatinskiy and Grebenkovskiy rayons field work is being carried out slowly and with great losses.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### CORN HARVEST BEHIND SCHEDULE IN ODESSA OBLAST

Moscow SEL'SKAYA ZHIZN' in Russian 9 Oct 84 p 1

[Article by A. Soldatskiy, Odessa Oblast: "What Is Hindering Corn Harvesting"]

[Text] In many enterprises of Odessa Oblast the harvesting of ears, their drying and sale to the state are behind schedule.

On the roads of Odessa Oblast right now one most often meets trucks loaded with vegetables, fruit and beets. In recent days there has been an increase in the flow of trucks carrying corn--a sign that the second harvest is in full swing.

The volume of work is large--machine operators must harvest corn for grain from 320,000 hectares. Preparations for the corn harvest were made in good time; reserves were sought for replenishing the stock of equipment. According to the calculations of specialists, existing resources can be used to harvest corn on 12,000 hectares daily and to complete work in 26 days.

These calculations have not yet proven themselves; the oblast has not been able to achieve the planned daily output. On the average ears are harvested from 6,000 hectares daily, which is clearly less than can be done. Nevertheless, even with a depressed harvesting pace a considerable quantity of ears has accumulated on threshing floors. In some places workers are not hurrying with harvesting operations--after all, it is a complicated manner to clean and dry such a mass. The reasoning is clear--harvested ears with an increased moisture content may deteriorate, whereas if they remain in the fields they will be preserved better.

The one-sided approach to preparing for the second harvest had its effect. Most attention was given to lines for the processing and storage of ground corn grain with an increased moisture content, and the drying enterprise was forgotten. The October sun is still hot, but often the sky is covered with clouds and during the night there is fog. In this case it will not be possible to bring a large mass up to standard under natural conditions. Drying equipment is needed.

In Kolkhoz imeni Dimitrov of Tatarbunarskiy Rayon two such pieces of equipment are in operation. In 1 day they can process 300 tons of grain--everything

that arrives from Niva combines equipped with attachments. There are no worries about bringing grain up to standard for the directors of Kolkhoz imeni Tatarbunarskoye Vosstaniye, where highly efficient drying units are also in operation. There are none in many other enterprises in the oblast.

It turned out that a large number of grain-products enterprises were not ready for the reception of large numbers of ears of corn. At the gates of a number of combines there are long lines of trucks carrying corn. At a Saratov enterprise I counted over 50 trucks in such a line. I became acquainted with one of the drivers from the Tatarbunarskoye Administration of Irrigation Systems, A. Tkach, and learned that one day he stood in line at the combine for over 7 hours, and another time--6 hours. Instead of three he makes only one trip per day. The same applies to everyone involved in transporting corn.

Average daily output of harvesting units in the oblast equals about 2.5 hectares per day although almost 5 hectares per day was planned. Over 20 days have passed since the beginning of harvesting, but in many kolkhozes and sovkhozes of the oblast workers are still trying to get going. Incidentally, there are many cases in which mechanized detachments and entire enterprises achieve high indicators. In Kolkhoz imeni Tatarbunarskoye Vosstaniye the crew of Hero of Socialist Labor A. Mardar harvests corn from 10-11 hectares using the Khersonets-200; in Kolkhoz imeni Kutuzov, Tatarbunarskiy Rayon, the crew of I. Kormyzhenko harvests corn from 13 hectares. A high productivity rate is achieved by machine operators V. Lipovyy and V. Belevskiy of the same kolkhoz and by F. Kuyemzhi and A. Gaydazhi of Kolkhoz imeni Dimitrov. V. Ivanov of Kolkhoz imeni Kirov, Belyavskiy Rayon, and F. Bragar of Krasnopovstancheskiy Sovkhoz harvest 14 hectares of corn daily.

Workers of Kolkhoz imeni Kirov decided to harvest all corn in the near future and to sell the state no fewer than 1,050 tons of its grain. A schedule for the operation of each unit was developed, and the schedule is strictly adhered to. Many village residents, retired people and schoolchildren work on threshing floors. Ears and kernels are cleaned and dried in good time. In becoming acquainted with the work of such enterprises one again becomes convinced that results depend above all on the organization of labor.

In Pravda Kolkhoz of Tatarbunarskiy Rayon corn earmarked for grain purposes occupies 1,333 hectares. Five Khersonets-7's, one Khersonets-200 and two Niva combines with PPK-4 attachments are concentrated here in one mechanized detachment. Knowing that today the corn field is the most difficult section, the chairman of the kolkhoz, D. Agrirov, spends a great part of his work time here.

"According to the schedule, each day we must harvest corn from 50-55 hectares," says the chairman. "We must harvest the corn in 25 days. On the third day of work we began to work according to the schedule."

Everyone is interested in high machine productivity--base and supplementary pay, even of welder P. Babynin, depends on the average wage of the combine operator. If a combine breaks down, everyone who is free works on it. Incidentally, the watch method is used--there are two machine operators per

combine. In 3-4 hours there is a shift change. Work goes on from early morning until midnight. Simultaneously with harvesting the kolkhoz has begun the sale of corn to the state. It is planned to send no fewer than 3,300 tons into state granaries.

The well-known master of the corn field, N. Razinkin, works in this kolkhoz. His 100-hectare field is irrigated, and here the corn is still green. But by its appearance we can say that the goal of harvesting 100 quintals of grain per hectare will be achieved. Right now Nikolay Ivanovich is working together with A. Nazarenko to harvest corn raised on dry-farming land. The way they work together can serve as an example for the entire oblast. On the first day a breakage occurred. Half the day passed before repairs were completed, but before completing work they still threshed 55 tons of ears.

"Today we plan to harvest no fewer than 80 tons," said N. Razinkin, "and this will become our norm."

However, soon Nikolay Ivanovich and his colleague made a correction in the schedule. Working from 7 A. M. until midnight, they threshed 88 tons of ears. The crew has surpassed the average oblast indicator by a factor of 5-6.

In Odessa Oblast we have someone we can measure ourselves by. But right now there are still too few imitators of Razinkin and other masters who utilize equipment efficiently.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### STATUS OF CORN HARVEST IN KIROVOGRAD, ODESSA OBLASTS

Kiev PRAVDA UKRAINY in Russian 19 Sep 84 p 2

[Article by I. Bratchenko and A. Belous: "The Final Stage"]

[Excerpts] In the spring of the current year the corn farmers of Kirovograd and Odessa oblasts concluded an agreement about socialist competition on the pages of PRAVDA UKRAINY. Each oblast determined its own goals in cultivating corn. It cannot be said that the weather assisted corn farmers, but machine operators demonstrated all their skill to keep their word.

Now the final, concluding stage is coming--the harvesting of corn for grain purposes is beginning. How have the oblasts prepared for this important work? What results do they expect? This is discussed below.

#### Kirovograd Oblast/ Surpassing the Goal

Among those who signed the contract about socialist competition among corn farmers in Kirovograd and Odessa oblasts for this year are V. S. Andriyash, Hero of Socialist Labor and tractor brigade leader (Rossiya Kolkhoz, Novoukrainskiy Rayon) and link leaders S. S. Ilev (Kolkhoz imeni 20 S'yezda KPSS of the same rayon) and V. N. Zhurzhiy (Kolkhoz imeni Il'ich of Gayvoronskiy Rayon). What kind of work did the collectives headed by them do? How does the harvest look before the beginning of harvesting operations? Here are two short interviews.

V. Ya. Krutsenko, first secretary of the Novoukrainskiy Rayon committee of the Ukrainian CP says:

"Both Viktor Andriyash's and Stepan Ilev's corn looks good--every hectare will yield over 50 quintals of grain. Now they are harvesting corn for kornazh purposes (crushed ears with kernels with an increased moisture content). Equipment was prepared in good time; here as in all enterprises there are special machines for crushing ears."

"In the rayon an inter-enterprise detachment was created for harvesting corn with an increased moisture content in the kernels, at full maturity and for seed (hybrid). It will work according to piecework contracts. The people are well trained and know the conditions for wage payments. There is large-scale work to be done--17,000 hectares of corn must be harvested and no fewer than 80,000 tons of corn grain must be produced."

V. S. Krivoy, chairman of the RAPO [Rayon Agro-Industrial Association] soviet of Gayvoronskiy Rayon says:

"This year Vladimir Zhurzhiy cultivated both hybrid and seed corn on an area of 270 hectares. Both look good; seed corn, for example, will yield no less than 55 quintals per hectare."

"In the oblast there are many enterprises in which corn promises a good yield. The corn is especially good in Ul'yanovskiy, Gayvoronskiy, Novoarkhangel'skiy, Dobrovelichkovskiy and Novoukrainskiy rayons. This is the result of the increased mastery of machine operators, of the use of industrial technology and of the introduction of the experience of the oblast's leading corn farmers, A. V. Gitalov and V. I. Motornyy, who raise 70-100 quintals of seed on dry-farming lands."

"At the beginning of the year workers of the oblast's kolkhozes and sovkhoses took on the obligation of harvesting 900,000 tons of yellow corn. Then they reexamined this goal and decided to harvest significantly more. Party and soviet organs, RAPO soviets and oblast kolkhozes and sovkhoses are now orienting farmers toward the successful fulfillment of increased obligations. All machine operators and kolkhoz and sovkhos workers are now living for this."

"In Kirovograd Oblast preparations for harvesting were fair. All equipment was repaired ahead of time. Machine operators have at their disposal 1,136 Khersonets-7 combines and 150 Khersonets-200 combines. Moreover, 560 grain combines are equipped with PPK-4 attachments. Highly trained machine operators have been selected and placed into 540 links and detachments."

"Collectives of the oblast's industrial enterprises will provide considerable help during harvesting. In the course of the winter 120 workers took courses on various agricultural machines and mechanisms and learned about all the fine points of corn harvesting. Now they are already working."

"The second harvest has already begun. By 14 September seed corn was harvested on over 25,000 hectares. Five hundred special grinding machines have been prepared; each one can process 120 tons of ears in 10 hours. In this way, daily productivity of all grinders equals 60,000 tons. Good concrete structures built with the help of supervisors-labor collectives of Kirovograd, Svetlovodsk, Aleksandriya and other oblast cities are available in the quantity needed to store seed corn with an increased moisture content."

But not everything is going smoothly. The main problem is the shortage of tires for automobiles and tractor trailers. Oblast enterprises are counting on help from republic departments. A good corn harvest has been raised and it must be shipped on schedule without tolerating even the smallest losses.

#### Odessa Oblast/ Difficult Test

The colors in the fall fields are changing rapidly. Only the work pace is not changing. On the expansive Black Sea fields it remains intensive and rapid, as before.

We are travelling through the fields of Kolkhoz imeni 22 S'yezd KPSS of Saratskiy Rayon. No matter where you look tall stalks are in view.

Precise work plans for the corn harvest have been elaborated in other enterprises of Saratskiy Rayon as well. Equipment and dryers were prepared everywhere ahead of time; concern was shown for daily living conditions of machine operators. In many enterprises harvesting of corn for kornazh purposes has already begun; kernels with an increased moisture content are being placed into storehouses.

"This attitude exists not only in Saratskiy Rayon," says the deputy director of the oblast agricultural administration, V. A. Zatirka. "Over 1,000 mechanized detachments and links, over half of which work according to contracts, are ready to take the difficult test at the final stage of the struggle for a large harvest of the valuable forage crop. A considerable amount remains to be harvested--320,000 hectares, which is much more than last year. Plantations must be cleared in the most compressed period of time, in 25 work days as a maximum. This is why emphasis is placed on the maximal use of technology. Over 1,700 Khersonets-7 combines, about 200 Khersonets-200 combines and 560 combines with PPK-4 attachments will move into the fields. All of them are supplied with machine-operating cadres primarily for two-shift work. Recently the buro of the party oblast committee passed an extensive program of operations in corn fields. Precise goals for the entire harvesting conveyor, for all technical and ideological provisions, were established.

Circumstances develop in such a way that it is necessary to harvest corn for dry grain and to store ears and grain with an increased moisture content simultaneously. The first 10,000 tons of grain have already arrived at grain-procurement points. It is planned to sell the state a total of no fewer than 450,000 tons of corn grain. The rest must remain in enterprises for use as forage. Trenches will be used for 170,000 tons of crushed grain and 115,000 tons of ears with an increased moisture content. For this all kolkhozes and sovkhazes have installed technological lines for processing grain and ears; sufficient storehouses have been prepared. Industrial enterprises and rayon associations of sel'khoztekhnika [Agricultural Equipment Association] have been very helpful in this. They manufactured and delivered 500 highly productive crushers and a large amount of other equipment.

With each passing day the front of harvesting operations becomes broader in the corn fields of Odessa Oblast. Corn farmers are passing a difficult and responsible test of maturity as grain farmers.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### ADVANTAGES OF PROTECTIVE FOREST BELTS OUTLINED

Kiev PRAVDA UKRAINY in Russian 19 Sep 84 p 2

[Article by T. Arkushenko: "Green Shield for Grain Fields"]

[Text] In the dry steppes of Priazovskiy Rayon of Zaporozhye Oblast forest belts have become a common detail of the countryside. They protect the soil well from dry winds and dust storms and help farmers to increase the productivity of agricultural crops.

The necklace of green plantings has noticeably changed the character of grain fields in many other regions of the republic as well according to reports from the Ukrainian SSR Ministry of Agriculture. The workers of many regions in Dnepropetrovsk, Donetsk, Kherson and other oblasts have already completed the creation of field-protective systems. At the present time plantings that stretch over 320,000 kilometers are "working" for the harvest. They are protecting over 13 million hectares of plowland.

Thanks to trees, on land between belts the moisture of the soil increases and the temperature regimen improves. The effectiveness of forest belts is especially high on irrigated lands, which now require less water for irrigation; the saline content of the land has decreased. Elaborations by scientists of the Ukrainian Scientific Research Institute of Forestry and Agricultural and Forest Reclamation imeni G. N. Vysotskiy and by workers of agricultural and forestry reclamation stations also attest to the fact that lands protected by green forest belts suffer from dust storms 3-5 times less than open fields do.

In coming years the green shield for grain fields will increase by 40,000 hectares and will shade no fewer than another million hectares of land.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### EQUIPMENT READINESS FOR CORN HARVEST DISCUSSED

Kiev PRAVDA UKRAINY in Russian 7 Sep 84 p 3

[Article by A. Stepanov: "Equipment for the Corn Fields/ Agricultural Overview"]

[Text] Corn fields are turning yellow before our very eyes. There are 2-3 weighty ears on every stalk. The link leader of the mechanized link of Rossiya Kolkhoz, Khristinovskiy Rayon, Cherkassy Oblast, F. P. Yarchuk, is pleased--the prospects for the harvest are good and the yield should be no smaller than last year's, when it was 83 quintals of grain per hectare.

But these are still calculations; the harvest is still in the fields. It must be cleared to the last grain. This is why an experienced machine operator who visits a machine yard on other business does not avoid corn-harvesting combines. In the link there are two Khersonets-200's and a Khersonets-7. A PPK-4 attachment was acquired and will be used with the Niva grain-harvesting combine. All equipment has been ready for work for a long time; the basic networks have been checked and adjusted.

This is a good example and it has been heard about not only in the rayon but in the oblast as well. It is too bad that there aren't many imitators. In neighboring Umanskiy Rayon in Kolkhoz imeni Dzerzhinskiy, Kolkhoz imeni Kalinin, Peremoga Kolkhoz, Leninskiy Put' Kolkhoz and others the hands of repair workers essentially have not yet touched corn-harvesting equipment. Evidently, as in past years they plan to make technological adjustments of combines directly in the fields.

With this type of attitude toward preparing machines the equipment will hardly be able to withstand large loads in the field. After all, in many rayon enterprises one combine will have to harvest 120-150 hectares of corn. Only a dependably-prepared machine will be able to deal successfully with this type of norm.

Corn farmers of Cherkassy Oblast have pledged to raise half a million tons of grain this year. The goal is a high one and a great deal has been done to reach it. The corn harvest in the oblast promises to be abundant. Thus it is all the more vexing that in some enterprises preparations for harvesting have been minimal, to put it mildly.

The same rebuke can be directed at the directors of some enterprises of Poltava Oblast. Here about 100 corn-harvesting combines are still not ready for work. This is the worst indicator in the republic. The situation is especially alarming in a number of enterprises of Dikan'skiy, Mashevskiy and Kremenchugskiy rayons. There are many cases in which Khersonets-200 combines which have already worked out a season but which have had no technical service, let alone technical adjustment, are counted among those which are repaired. According to technological requirements even new machines, and this year over 400 were delivered to the republic's enterprises, must be carefully examined, broken in and adjusted prior to moving out into the fields. A no less serious test must be passed by those who will be trusted with the complex and highly efficient Khersonets-200 combines. As analyses show, in previous years up to 15 percent of breakdowns in new machines were due to unskilful operation.

Dnepropetrovsk Oblast can serve as an instructional example. There a machine operator with a rank no lower than class 2 who has passed an exam in the required minimum of technical knowledge is allowed to work with these machines. This requirement has been in effect for 3 years. As a result, corn-harvesting equipment is already ready for work. Proper operation, careful service and careful storage have decreased preparation time for machines by almost half and expenditures have decreased by 20-25 percent.

This year the preparation of corn-harvesting machines has been well-organized in Donetsk, Zaporozhye and Odessa oblasts. An especially large contribution was made by enterprises of sel'khoztekhnika [Agricultural equipment association], which organized the replacement of worn Khersonets-7 parts and which took it upon themselves to reequip Niva combines for work with PPK-4 attachments.

Unfortunately, not enough of these attachments are being manufactured; moreover, they basically fit only the Niva.

Another no less important thing is this--in the republic there are almost 18,000 corn-harvesting combines, of which 12,000 are Khersonets-7's. In other words, this machine is still the main work force in corn fields. But it is getting more and more difficult to prepare the Khersonets-7 for work because once a plant ceases to produce the machine it also totally or partially ceases production of spare parts for it.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### SURVEY OF CORN-HARVESTING EQUIPMENT IN VINNITSA, KIROVOGRAD OBLASTS

Moscow PRAVDA UKRAINY in Russian 25 Aug 84 p 1

[Article by raid brigade consisting of S. Sul'zhik, machine operator of Kolkhoz imeni Kalinin of Novgorodkovskiy Rayon, I. Kotovskiy, outside inspector of Ol'shanskiy Rayon's committee of people's control--Kirovograd Oblast; Ye. Varenikov, department director of Vinnitsa Oblast Sel'khoztekhnika [Agricultural Equipment Association], and N. Baras' and I. Bratchenko, correspondents for PRAVDA UKRAINY: "With What Will We Move Into Plantations?"]

[Text] Corn harvesting for grain purposes is not far off in the forest-steppe zone; here the area in corn was significantly expanded this year. Our raid brigade reports on how workers are preparing to harvest this valuable grain forage crop in Vinnitsa and Kirovograd oblasts.

#### Vinnitsa Oblast

It is the goal of Vinnitsa farmers to increase gross yield of corn grain by over 100,000 tons in comparison with last year. The foundation under this obligation is a solid one--industrial technology has been utilized on 90,000 hectares, scientific recommendations and achievements of leading practice have been taken into account, and over half of the 900 mechanized detachments and links for raising corn worked under conditions of collective contracts. We can confirm that even with this summer's unfavorable weather conditions the programmed harvest will be achieved.

For harvesting corn it is planned to use 912 Khersonets-7 and Khersonets-200 combines as well as about 400 grain combines with PPK-4 attachments. Nevertheless, it is felt in the oblast agricultural administration that this technology, even when most efficiently utilized, is insufficient for completing work in the optimal period. At least another 180-200 PPK-4 attachments are needed, and without them it is not possible to include a significant portion of operating grain combines in harvesting work.

Another problem also bothers machine operators--what should be done with the Khersonets-7? It comprises 90 percent of all corn-harvesting machines. Consequently, it bears most of the harvest burden. But in the oblast every ninth combine is still in a state of disrepair. Urgent measures are especially needed in the main corn-growing rayons--Bershadskiy, Yampol'skiy, Gaysinskiy

and Trostyanetskiy, which will be first to begin harvesting. There about 20 percent of the Khersonets-7's are not ready.

These machines are repaired by the only special shop in the oblast in Peschanskiy Rayon Sel'khoztekhnika. Its productivity is fairly high--50 combines per month. Still this is insufficient to be ready on schedule. On the storage platform for equipment 88 combines are waiting their turn. Moreover, half of them have been here for 3-4 months.

Among the main reasons for such a serious lag in the repair of these machines we must especially single out the absence of spare parts. Their delivery has been curtailed because the Khersonets-7 is no longer being manufactured. But after all, in Vinnitsa Oblast it is primarily this machine that is used to harvest seed corn. And this is true not only for Vinnitsa Oblast.

Corn grain with increased moisture content will soon be ready for storage and processing. In Trostyanetskiy Rayon, for example, special storehouses have just been built in Kolkhoz imeni Zhdanov, Kolkhoz imeni Petrovskiy, Peremoga Kolkhoz and Druzhba Kolkhoz, a mechanized complex point for processing moist grain with a capacity of 2,500 tons has been built in Rossiya Kolkhoz, and a cleaning point for corn ears has been built in Kolkhoz imeni Suvorov. Storehouses have been built in Chechel'nitskiy, Bershadskiy and Yampol'skiy rayons. However, in the oblast as a whole the picture is not that consoling--of the planned structures for moist grain only half have been built as of yet.

#### Kirovograd Oblast

Kirovograd farmers have pledged to harvest 900,000 ton of corn grain. A great deal has been done everywhere. Crops have been cared for in a business-like manner everywhere, have been top-dressed and are pleasing to the eye.

Now the main concern is the coming harvest. It was being thought about already during the sowing period, when the ratio of early, average and late maturation varieties was established. Their correct proportions will give us the opportunity to begin harvesting significantly earlier than usual, to complete work in the best time and to not tolerate losses.

Harvest technology has also been determined. Moist grain will be stored in good quality concrete structures--oblast kolkhozes and sovkhoses have supplied themselves fully with these during the last 2 years.

In every enterprise kornazh [crushed moist corn grain] lines are already ready or will be ready by the time harvesting begins in order to process moist corn grain.

Oblast farmers have 1,396 corn-harvesting combines at their disposal. This is not enough. The burden on each combine is fairly high. In order to decrease this burden and the duration of harvesting operations 500 grain-harvesting combines equipped with PPK-4 attachments will be included in field work.

At what stage of readiness is equipment? Raid brigades have reported that Novgorodskiy Rayon is prepared best of all—there only one Khersonets-7 combine remains to be repaired. The readiness coefficient is high for this type of combine in Bobrietskiy, Gayvoronskiy, Novoukrainskiy and Onufriyevskiy rayons.

Unfortunately, this is not true everywhere. The raid brigade visited Druzhba Kolkhoz of Ol'shanskiy Rayon. Here is what it found. The enterprise has two corn-harvesting combines and both are not ready for work—they are standing in the repair shop like orphans. There are no roller cylinders, bearings or other parts for them. As long ago as last year, when the senior engineer of the rayon agricultural administration, A. I. Ivanov, together with the senior engineer of the rayon sel'khoztekhnika, N. A. Chalyuk, submitted plans for equipment repairs, the deputy chairman of the oblast sel'khoztekhnika, A. R. Revuk, reported that they did not count on special shops but instead readied corn-harvesting equipment locally. At home, of course, machine operators would do everything better than in sel'khoztekhnika, but...

Our interlocutor, A. I. Ivanov, discusses the situation—spare parts were not planned for these repairs, sel'khoztekhnika is not helping and the senior engineer of Druzhba Kolkhoz, I. Z. Sukhoy, travels from rayon to rayon in search of systems and parts.

Equipment is also not ready in Kolkhoz imeni Lenin and in Avrora Kolkhoz of the same Ol'shanskiy Rayon—four of their combines have been under repair for a long time in the Vityazevskaya and Pogrebyakovskaya shops of the oblast sel'khoztekhnika. They will not be ready until 15 September. In the rayon as a whole the plan for repairing corn-harvesting equipment leaves something to be desired.

There are lags in the preparation of Khersonets combines in Maloviskovskiy, Ul'yanovskiy and Gayvoronskiy rayons as well. The main problem is the shortage of assemblies and parts. Both oblast and rayon sel'khoztekhnikas, which have been called upon to help kolkhozes, are not acting as equal partners.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### NEW CORN STORAGE TECHNIQUE DISCUSSED

Kiev PRAVDA UKRAINY in Russian 3 Aug 84 p 2

[Article by L. Chernyavskiy, first deputy chairman of the executive committee of the Dnepropetrovsk Oblast soviet of people's deputies, N. Ivlev, first deputy chairman of the executive committee of the Cherkassy Oblast soviet of people's deputies and A. Bova, deputy chairman of the executive committee of the Voroshilovgrad Oblast soviet of people's deputies: "Corn According to the Kherson Method"]

[Text] On 21 June our newspaper discussed the amassed and tested experience of harvesting and storing corn with an increased moisture content in the enterprises of Kherson Oblast. The attitude toward this experience in other oblasts is presented below.

[By L. Chernyavskiy] In the oblast's enterprises there was great interest in the Kherson experience regarding the storage of crushed moist corn grain. A group of specialists from oblast organizations and directors from kolkhozes and sovkhozes travelled to Kherson and Kharkov oblasts to become acquainted with the experience in the place where the given technology is widely applied. In July of last year in Zarya Kommunizma Kolkhoz of Krinichanskiy Rayon an oblast seminar was held for specialists of agricultural administrations and directors of kolkhozes and sovkhozes.

As early as 1983 many kolkhozes and sovkhozes became convinced of the economic effectiveness of the new technology for storing moist corn grain. As experience shows, the quality of such feed is high. Losses of nutrients in it are minimal, the feed is liked by animals and it yields a noticeable increase in production. Last year 34,000 tons of crushed, moist grain were stored in the oblast. Good results in this regard were achieved in the kolkhozes Zarya Kommunizma, Druzhba and Progress of Krinichanskiy Rayon, imeni Kuybyshev of Novomoskovskiy Rayon and Druzhba and imeni Lenin of Pyatikhatskiy Rayon.

This year the area in seed corn has increased to 331,200 hectares in the oblast. Part of the harvest will be conserved according to the new technology.

A large amount of work is being done in the oblast to build storage facilities. Last year capital structures were built for 67,000 tons, and this year--for

11,000 tons. Prior to the beginning of corn harvesting, capacities for another 14,000 tons will be introduced, which with the previously-introduced capacities will meet all the needs of kolkhozes and sovkhozes.

Grain-harvesting combines are being reequipped to harvest corn with an increased moisture content.

[By N. Ivlev] During 1983 and this year delegations of directors and specialists of almost all rayons, kolkhozes and sovkhozes visited Kherson Oblast to study in detail the experience of procuring corn grain with increased moisture content. Last year two leading kolkhozes were the location of an oblast seminar in which RAPO [Rayon Agro-Industrial Association] directors and specialists and directors of enterprises participated. Similar seminars have been conducted in every rayon. Recommendations worked out on this problem were published in the oblast newspaper and sent to every enterprise.

A technology for storing crushed corn grain with increased moisture content has been perfected by Mayak Sovkhoz of Zolotonoshskiy Rayon and Kommunist Kolkhoz of Shpolyanskiy Rayon. The cost of one feed unit of corn grain stored according to this technology is three times lower in Mayak Sovkhoz than with processing and storage using the regular method. The enterprise saved 14,500 rubles by this alone.

In 1984 about 30,000 tons of corn grain with increased moisture content will be stored in the oblast, primarily in specialized enterprises for fattening livestock and hogs. Lined silage structures and reequipped grain-harvesting combines have been prepared for this.

[By A. Bova] In 1983 over 4,000 tons of crushed corn grain with increased moisture content were stored in the oblast utilizing Kherson technology. This year it is planned to store 45,000 tons of moist grain.

Storehouses for 27,800 tons and 55 grain crushers, including 18 IRT-165 models, have been prepared in enterprises.

To completely meet the need for capacities, by 1 September enterprises will build another 18 storehouses for 6,400 tons; rayon building organizations will build 13 storehouses for 5,200 tons and management enterprises of oblast city enterprises--12 storehouses for 5,700 tons. In addition, prior to the start of corn harvesting 114 grain-harvesting combines will be reequipped for crushing with the help of rayon sel'khoztekhnika [Agricultural equipment association] associations.

Oblast soviet and agricultural organs are in constant control over the introduction of the experience of Kherson enterprises with regard to storing moist corn grain.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### READINESS FOR CORN HARVESTING REVIEWED

Kiev PRAVDA UKRAINY in Russian 14 Aug 84 p 1

[Article by V. Poliy, link leader for feed procurement in Luch Kolkhoz of Pervomayskiy Rayon, I. Zhabko, chairman of the Perekopskiy city committee of people's control, A. Dem'yanenko, deputy director of the oblast agricultural administration on feed production--Crimea Oblast; V. Lazovskas, director of a mechanics detachment in Sarechnyy Sovkhoz of Nikolayevskiy Rayon, A. Krasnorutskiy, chairman of the Voznesenskiy city committee of people's control--Nikolayevsk Oblast; I. Ovchinnikov, director of a feed processing complex and people's controller of Ukraine Kolkhoz in Novovorontsovskiy Rayon--Kherson Oblast; N. Avramenko, Yu. Yenov and G. Selin, correspondents for PRAVDA UKRAINY: "A Strict Accounting of Time"]

[Excerpts] The southern oblasts have completed harvesting early grains. New urgent concerns lie ahead. Corn must be ensilaged; the time is not far off when machine operators will begin harvesting seed corn. The area in this crop has been increased significantly this year; consequently, the volume of work in plantations and the load per combine increases.

The farmers of Crimea, Kherson and Nikolayevsk oblasts will be first to begin harvesting grains. How have they prepared for the "second" harvest? What other problems must they still deal with? Our raid brigade will report on this.

#### Crimea Oblast

Corn must be harvested from almost 200,000 hectares by grain farmers here. Most corn-harvesting combines have already been adjusted and the rest are in the final stages of repair. Specialists from oblast and rayon sel'khoz-tekhnika's [Agricultural equipment associations] and committees of people's control made a careful review of the fleet of harvesting machines. While considering the increase in the area in seed corn, machine operators are completing the preparation of 195 PPK-4 attachments for the Niva combine. Support bases for the Kherson Combine Plant and Gomel Plant of Agricultural Machinery have been created and are in operation.



Equipment has been prepared well for harvesting in Belgorodskiy, Simferopol'skiy and Leninskiy rayons and in many enterprises of other rayons.

Unfortunately, not all oblast enterprises are ready to meet the new harvest totally equipped. Pervomayskiy and Sakskiy rayons are lagging in repairing equipment. Of the combines that were examined in Sakskiy Rayon, a portion turned out to be prepared with poor quality. Equipment was improperly stored in Krasnogarskiy and Yubileyny sovkhoses.

#### Kherson Oblast

On corn plantations the machine operators of Tavriya are using 109 Khersonets-200's, 753 Khersonets-7's and 491 Nivas with PPK-4 attachments. With this equipment seed corn can be harvested in 18 days. It can be--if by the start of work the entire technical arsenal is repaired. Today every seventh corn-harvesting machine is still in a state of disrepair. Whereas in Genicheskiy, Belozerskiy and Tsyurupinskiy rayons almost all equipment is ready, in Ivanovski, Novotroitskiy and Kakhovskiy rayons the readiness coefficient is significantly lower. Moreover, in these rayons on large areas corn is cultivated with irrigation and promises a good yield.

As in past years, Kherson corn farmers intend to expand the introduction of the new technology for harvesting, post-harvest processing and storage of corn grain with increased moisture content. Whereas last year, with a moisture content of 25-35 percent, 75,000 tons of grain were harvested, crushed and stored in hermetically-sealed capacities, this year it is planned to use this method to store no fewer than 200,000 tons. Capacities for 120,000 tons are already available. It is planned to build another 104 storehouses for 116,000 tons.

#### Nikolayevsk Oblast

The Nikolayevsk Sel'khoztekhnika has presented a good initiative--in contrast to other years it has fully taken upon itself the responsibility of preparing Khersonets-200 combines for harvesting. Depending on the nature of the repair problem the machines are sent to specialized oblast shops or are repaired in rayon associations.

Unfortunately, in some oblast rayons good work was seriously hindered because for a long time partners could not agree on who must deliver the combines--the enterprises or Sel'khoztekhnika. A certain psychological barrier is also a hindrance--it is easier to sell spare parts than to repair equipment. Evidently, this is the attitude of the directors of Nikolayevskiy Rayon Sel'khoztekhnika, although production capacities would fully allow for repair services.

In a number of enterprises of Nikolayevskiy Rayon on the examination day there was no clear idea what would be used to harvest corn. Some combines have been in Krivoozerskiy Rayon since last year and their owners have only recently begun to locate them. The fate of two broken Khersonetses in Zarechnyy Sovkhoz has not been decided. Even division mechanics do not know what to recommend--repair or junking. This enterprise must harvest 900 hectares of seed corn. In the oblast as a whole the area in corn is larger than ever before. This is why every unit requires an efficient eye and concerned hand.

## LIVESTOCK FEED PROCUREMENT

### IMPROVED PROCUREMENT, PROCESSING OF STRAW CALLED FOR

Moscow SEL'SKAYA ZHIZN' in Russian 12 Oct 84 p 1

[Article by M. Glinka, zootechnician: "To Supplement Rations"]

[Text] The USSR TsSU [Central Statistical Administration] reports: As of 8 October the country's farms prepared almost 66 million tons of hay, 66.3 million tons of hayage, 15.7 million tons of fodder roots, 226 million tons of silage and 6.6 million tons of artificially dehydrated feeds were obtained; 82.7 million tons of straw, chaff and other side products from grain crops were put up. Straw was harvested from 86 percent of the area from which grain crops were harvested.

Animal raisers have a well known attitude towards straw. On farms where the feed situation is good it is used mainly for bedding, while at farms where the fodder base is weaker, it goes into the feed bins primarily when there are acute feed shortages. Ivan Semenovitch Popov, the creator of our country's first norms for animal feeding, thought that sizable quantities of straw could be introduced into the rations of animals with low and average productivity, and that for high productivity animals it plays a useful role as a ballast feed, essential for providing the needed bulk to rations. It is important to introduce it into rations to maintain normal digestive processes, for example when abundant amounts of watery feeds are used. In general, however, it was assumed that cattle should be given straw only when there was a shortage of coarse fodder.

At that time, in the 1940's, there could be no other point of view. The farms were small, 20-30 cows, technically weak, and did not have sufficient energy supplies. It was recommended to steam straw in wooden bins and to chemically process it within wooden frames. How much feed could be prepared with such mechanization? It is not surprising that far from every farm prepared straw for feeding. Later, as farms were consolidated and transformed into complexes, the other extreme appeared. They started saying that at industrial type enterprises it was generally unprofitable to process straw. This was a very laborious process, requiring considerable energy or the use of special chemicals, and that meant special equipment.

It is perhaps for these, or for other reasons that straw is clearly still not in favor with animal raising technologists. It is turned to only when there is no other feed, while if the year turns out a little better, it is forgotten.

Industry does still not produce satisfactory equipment to prepare straw for feeding. The most modern standardized feed preparation unit, the KOPK-15, is intended for cattle. Machine builders have not brought it up to contemporary standards. It has no attachments for improving the food value of straw. It is only for mixing feeds: This makes it more edible, but that is all.

How is this compatible with, for example, the recommendations of the RSFSR Ministry of Agriculture and the RSFSR Goskomsel'khoztekhnika, where among the main technical and technological conditions to be met by feed preparation facilities an important place is given to the creation of lines which can physically, chemically and biologically process straw and other coarse, low food value feeds? Animal raisers are forced to equip their feed facilities at dairy farms with steamers and mixers intended for swine raising, while they must make their own devices for mechanizing the chemical processing of straw.

It is not surprising that of the 150 million tons of straw obtained by the country's kolkhozes and sovkhoses, only about 50 million tons are used for feed, and a sizable share of this is put into feed bins unprocessed. Much straw is left on the fields. Here are some data on its preparation in union republics. The first column shows how much straw was picked up as a percent of the grain crop area already harvested, while the second shows how much was prepared as a percent of last year's level:

RSFSR	84	93
Ukraine	100	101
Belorussia	94	91
Uzbekistan	86	68
Kazakhstan	84	96
Georgia	95	111
Azerbaijan	100	103
Lithuania	99	102
Moldavia	99	109
Latvia	87	92
Kirghizia	99	83
Tajikistan	93	72
Armenia	99.2	106
Turkmenia	100	98
Estonia	92	91

In the Russian Federation straw has been completely or almost completely removed from the fields by machine operators in the following areas: the Tatar, Mordovian, Chuvash, Chechen-Ingush, Kabardino-Balkar and North Osetian ASSRs; Krasnodar and Stavropol krays; Ryazan, Voronezh, Kursk, Rostov and Orenburg oblasts. A considerable share still lies on the fields in Krasnoyarsk Kray, Pskov, Kostroma, Smolensk, Kirov and other oblasts even though plans for its preparation for feed have not been fulfilled.

Its potential value is, after all, considerable. Another problem is that animals are not able to assimilate the energy contained in it as straw is not readily digestible. However, we are now in a position to correct this oversight of nature. I. S. Popov noted that when processed by alkaline substances its

food value doubled, up to 0.45 feed units per kilogram. This indicator is characteristic of hay. Modern processing methods have an even greater effect.

Among the entire series of methods I would like to first of all mention the calcination of straw and its treatment by small doses of lime. This method was proposed by Professor P. A. Kormshchikov back in the 1930's. Unfortunately, it was not sufficiently disseminated. Again, it appears that this was due to lack of machinery. It increases the food value of straw to 0.5 feed units per kilogram. The method of treating straw with small doses of alkali, developed by VIZh [All-Union Institute of Animal Husbandry] is also of interest. The treatment of straw with ammonia liquor, or anhydrous ammonia has a considerable, but somewhat smaller effect and at the same time improves its protein content and if there is mildew, removes it. Its use is very important now, during the time livestock are kept indoors.

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## LIVESTOCK FEED PROCUREMENT

### WINTER READINESS OF KAZAKH FEED SUPPLY DISCUSSED

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 17 Oct 84 p 1

[Editorial article: "Winter Readiness for Farms"]

[Excerpts] During the hay-mowing season the republic's enterprises fulfilled a large volume of work related to the accumulation of forage. Almost everything that was suitable for use as feed was collected. However, a severe summer drought did not allow us to collect the necessary quantity of hay, to create the silage reserves in volumes stipulated by the plan, or to totally satisfy the need for grain forage. Although the accumulation of feed using aftergrass, humus waste products and wastes from vegetable and melon crops and the storage of sugar beet haulm in pits continue, it is already clear now that the winter feed balance will be very strained on many farms. But this type of situation by no means signifies that a decrease in farm productivity during the coming cold months is unavoidable. Our knowledge about feed is growing rapidly. Modern science has a rich arsenal of means enabling us to significantly raise the nutritive value of forage. By utilizing these resources, each farm and enterprise can increase the assimilability of feeds by no less than one third, i.e. to compensate for the feed shortage by improving technology for preparing it.

The practical experience of leading enterprises confirms the correctness of this type of approach. The farm of Valer'yanovka village in Novoil'novskiy Sovkhoz, Kustanay Oblast, has no greater feed supplies than its neighbors. But here milk yield is higher and it continues to grow. What is going on? The farm's feed shop has begun to operate using the new technology. Hay, straw, silage, cane and vegetable tops--all of this is mixed together, flavored with grain waste products, enriched with chemically-active supplements and subjected to thermal processing. The resulting mixture is characterized by a high degree of assimilability, which in the final analysis results in a growth in herd productivity. There are many examples like this. A great "return" on forage in terms of livestock products is achieved by workers of the fattening complex of Karagandinskiy Sovkhoz, who recently completed a 5-year meat production plan for the state, by the milkmaids of Ural'skiy Sovkhoz, West Kazakhstan, who were able to maintain winter milk yields on summer levels and by pig tenders of Pobeda Kolkhoz, Sayramskiy Rayon of Chimkent Oblast, where the feeding of hogs using a multi-component paste consisting three-fourths of silage, vitamin-enriched grass meal and barley straw, was introduced successfully.

In these enterprises it is well understood that the efficient use of feed means processing it in such a way as to have the animal's organism assimilate all available nutritive substances. Feed shops facilitate an increase in the effectiveness of using existing forage reserves. This is why everywhere we must work to create a situation in which the entire flow of coarse, succulent and concentrated feeds arriving on farms moves through these technological processing lines. Preparing farms for winter readiness means first and foremost bringing feed shops to a state of readiness. This is where the sources of branch productivity begin; the foundation of future milk yields and weight gains is laid here. In the final analysis the stability of supplies of animal products to the population depends on the stability of work of feed shops.

There are possibilities for effective work everywhere. In the republic, feed production is imparted with a specialized branch nature. A real feed processing industry has been developed, the mechanization of farms has reached a high level, the system of labor organization of workers involved in feed production has been improved and brigade contracts have been adopted by many. All of this brings perceptible results.

However, not everywhere by far is work carried out in a business-like manner or is the experience of the right flank utilized competently. Mail to KAZAKHSTANSKAYA PRAVDA contains a considerable number of complaints concerning the fact that the preparation of farms for winter has not yet become a subject of primary concern for directors and specialists of enterprises and that party committees are poorly involved in changing things within the branch. In Derzhavinskiy Rayon, Turgay Oblast, the hay that was procured was of a low quality. The situation could be corrected to a certain degree by feed shops. But in many enterprises they have not yet been put into operating condition--there is a shortage of spare parts for putting units into operation. People without the necessary training are often made masters of feed shops. This results in frequent violations of the technology for feed preparation. In Shcherbaktinskiy Rayon of the Pavlodar Irtysh region workers were unable to include feed shops in work at the time that dairy cows were transferred to stall upkeep. As a result, there was a decrease in the productivity of the dairy shop. Kiyevskiy and Yerшовskiy sovkhoses of Kustanay Oblast are under the threat of an interruption in the operation of feed shops and several other livestock raising objects. The reason for such a situation is the sluggishness of leaders from the city of Rudnyy, of contract workers of the Leninskiy SPMK-5 section and of the UMR [Administration of work mechanization] of Sokolovrudstroy [Sokolov mine building trust]. These are alarming signals. Local party committees must immediately deal with the situation and eliminate existing shortcomings. The priority task is to zealously and skilfully utilize forage resources and to secure a maximal return on every kilogram of hay, haylage and silage.

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## LIVESTOCK

### CATTLE REPRODUCTION PROBLEMS REQUIRING ATTENTION

Moscow SEL'SKAYA ZHIZN' in Russian 23 Oct 84 p 2

[Article by V. Krykanov, head of a sector of the USSR Committee of People's Control, and V. Fedulov, inspector of the USSR Committee of People's Control: "Half a Calf From a Cow"]

[Text] It is well known what tremendous damage livestock barrenness does to farms. Sections, where herd reproduction is organized poorly, reduce the sale of milk and meat and production costs increase and the efficiency of animal husbandry decreases on them. Managers and specialists of advanced farms understand this well and organize work so that every cow bears a calf annually. For example, last year livestock breeders in Igrinskiy, Karakulinskiy and Uvinskiy rayons in the Udmurt ASSR obtained 92 to 94 calves and the best farms in Kaluga Oblast, more than 100 head of young stock per 100 cows. In one-fourth of the oblasts in the Russian Federation this indicator exceeds 90 calves.

However, such a situation by no means exists everywhere. Farms in Dagestan, Kabardino-Balkar and Chechen-Ingush autonomous republics and in Amur, Kursk, Rostov, Smolensk, Chita and a number of other oblasts obtained less than 80 calves per 100 cows. Why does this happen? The USSR Committee of People's Control checked the reasons for the high barrenness of cows on kolkhozes and sovkhoses in 17 autonomous republics, krais and oblasts in the RSFSR. This check disclosed serious shortcomings in the organization of cattle reproduction. On many kolkhozes and sovkhoses important work was neglected, the role and responsibility of specialists was minimized, zootechnical recording was not organized and artificial insemination of cows was not introduced. As a result, in 1983 a total of 888,000 cows, or 24 percent of their total number, did not produce offspring in the checked regions. Owing to the barrenness of cows, about 500,000 tons of milk were lost there and 270,000 tons of meat were not obtained.

Many farms and entire regions, where only 50 to 60 calves per cow were obtained and often even less than that, were disclosed in the course of the check. For example, last year in Amur Oblast one out of six farms obtained 60 calves and less, including the Selemdzhinskiy Sovkhoz, 51, the Belovezhskiy Sovkhoz, 49 and the Chesnokovskiy Sovkhoz, only 48. In Rostov Oblast on kolkhozes and sovkhoses in 7 out of 41 rayons the yield of calves was lower than 60 and in Verkhnedonskiy, Orlovskiy and Sholokhovskiy, within 50. Throughout the oblast during the past year the total loss from this was 180 million rubles.

The high barrenness of cows is largely due to the unsatisfactory organization of the artificial insemination of animals. For example, in the Dagestan ASSR only 36 percent of the cows and heifers are inseminated artificially, in Novgorod Oblast, 37 percent, in Ryazan Oblast, 52 percent and in Smolensk and Tomsk oblasts, 60 percent. On most kolkhozes and sovkhoses artificial insemination centers have not been established at all dairy sections and those that exist are located on small semidark unheated premises. The provision of farms with artificial insemination centers comprises only 85 percent and only one-fourth of them are standard.

Many kolkhozes and sovkhoses use sires of an unknown origin and at times even sires just removed from fattening. These violations confuse recording and increase the barrenness of cows. In Saratov Oblast on all the 22 checked farms, where voluntary pairing was used, almost one-third of the cows did not produce calves. On the Mirnyy Trud Sovkhoz in Lipetsk Oblast with such an "organization" of work one-half of the breeding stock remains barren. On the Yuvalinskiy Sovkhoz in Tomsk Oblast, where there is no artificial insemination and sires of an unknown origin are used, 36 percent of the cows have remained barren.

Work with young replacement stock is organized poorly. Heifers are often inseminated not at the age of 1½, but after the expiration of 2 and sometimes even 3 years, which leads to big unproductive expenditures. A total of 31,000 heifers over the age of 2, or 44 percent of their number, remained unseminated on farms in Ryazan Oblast last year, 51 percent in Rostov Oblast and 63 percent, in Dagestan and Kabardino-Balkar autonomous republics.

The yield of calves is also lowered owing to the poor keeping and feeding of pregnant cows. On a number of farms these animals are untimely separated from the common herd. Delivery sections and special boxes for calving are by no means everywhere. On kolkhozes and sovkhoses in Smolensk Oblast the provision of dairy sections with delivery premises comprises only 15 percent, in the Dagestan ASSR, 25 percent and in Lipetsk Oblast, 34 percent. On 17 out of the 24 checked farms in Kursk Oblast there were no delivery premises at all.

It must be stated that the indicators of calf yield often are understated. In order to avoid responsibility for the mortality of young stock, some specialists enter it not on the day of cow calving, but after several weeks, which lowers their responsibility for the preservation of calves and makes it possible to conceal the mortality occurring owing to mismanagement and to avoid compensation for material damage. On the checked kolkhozes in Zyryanskiy Rayon in Tomsk Oblast last year all in all 469 dead calves were concealed from the record and the cows that produced this offspring were shown as barren. A total of 332 calves were not recorded on Mayak and Pervoye maya kolkhozes and on the Chernevskiy Sovkhoz in Dmitriyevskiy Rayon in Kursk Oblast. There are many such examples.

Serious shortcomings in the organization of cattle herd reproduction are known to the RSFSR Ministry of Agriculture. However, it has not taken effective measures to rectify the situation.

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CSO: 1824/82



## LIVESTOCK

### ESTONIAN MEAT, MILK PRODUCTION OVERVIEW

Tallinn SOVETSKAYA ESTONIYA in Russian 20 Sep 84 p 1

[Agricultural commentary: "Don't Stop at What Has Been Accomplished"]

[Excerpts] More attention has been devoted this year to storing fodder. But still not enough, it seems, because about 40 farms have not yet fulfilled their planned targets. By 13 September, the plan for storing herbaceous fodder has been fulfilled 103.2 percent for the entire republic, but this includes shortfalls in Yygevaskiy, Kingiseppskiy and Valgaskiy rayons. The aftermath is now growing nicely, and its mowing should continue.

In practically every rayon there are fields from which the straw has not been cleared. And that too is valuable fodder.

Work in livestock production is proceeding successfully. The average milk yield per cow in the republic was 361 kilograms in August, 19 kilograms more than the same month last year. Milk yields rose in all rayons other than Khiyumaaskiy and Pylvaskiy. On Khiyumaa, milk yields were lower by 10 kilograms. The present organization of milk production there is inefficient, and not enough attention is being devoted to the young stock. At the same time, merely by organizing feeding efficiently, dairy farmers have been able to increase the milk yields per cow by 42 kilograms in Khaapsaluskiy Rayon and by 35 kilograms in Kharyuskiy and Kingiseppskiy rayons.

By 1 September, the kolkhozes and sovkhoses in the republic milked in all 2,717 kilograms of milk per cow, 81 kilograms more than during the same period last year. Milk production rose in all rayons (except in Khiyumaaskiy Rayon where it was 117 kilograms lower than last year; and in Vilyandiskiy Rayon where it was down by 1 kilogram). The increase was 173 kilograms in Kharyuskiy Rayon, 136 kilograms in Vyruskiy Rayon, and 129 kilograms in Kingiseppskiy Rayon. The amount of milk produced per cow [during the first eight months] was 2,974 kilograms in Rakvereskiy Rayon, and 2,883 kilograms in Paydeskiy Rayon. By the end of the year these rayons will undoubtedly have produced over 4,000 kilograms of milk per cow. The dairy farmers of Pryanuskiy and Kharyuskiy rayons will be close to this figure. At the same time, the milk yields per cow in Vilyandiskiy Rayon are declining and are now below the average for the republic.

Milk Procurement From All Categories of Farms, and Average Milk Yield/Cow on Kolkozoes and Sovkhozoes in January-August 1984

Rayons	Milk procurement in percent of		Average milk yield/cow (kilograms)	
	84 plan	Jan-Aug 83	Jan-Aug 84	Over 83
Kingiseppskiy	76	105	2,543	129
Khaapsaluskiy	76	105	2,619	113
Valgaskiy	75	110	2,404	121
Kharyuskiy	74	109	2,770	173
Kokhtla-Yarveskiy	74	108	2,633	114
Vyruskiy	74	107	2,650	136
Pyarnuskiy	73	105	2,839	71
Rakvereskiy	73	106	2,974	123
Raplaskiy	73	105	2,730	65
Paydeskiy	72	105	2,883	22
Iygevaskiy	72	106	2,648	1
Pylvaskiy	72	105	2,625	39
Tartuskiy	72	105	2,616	122
Vilyandiskiy	70	101	2,716	-1
Khiyumaaskiy	68	94	2,400	-117

Procurement of Slaughter Animals (Including Poultry) From All Categories of Farms, and Average Daily Weight Gain of Feeder Cattle and Fattened Hogs on Kolkozoes and Sovkhozoes in January-August 1984

Rayons	Procurement in percent of		Average weight (kgs/head)		Average gain (grams/day)	
	84 plan	Jan-Aug 83	Cattle	Hogs	Cattle	Hogs
Raplaskiy	77	128	438	106	652	459
Vyruskiy	76	119	411	123	525	431
Rakvereskiy	76	113	466	114	557	474
Khaapsaluskiy	73	123	431	104	596	483
Kharyuskiy	73	111	441	105	621	465
Iygevaskiy	72	120	430	108	568	443
Paydeskiy	72	114	459	106	574	466
Pylvaskiy	71	115	420	108	592	417
Valgaskiy	69	109	424	106	500	430
Khiyumaaskiy	69	121	458	108	671	499
Tartuskiy	68	114	422	109	584	438
Pyarnuskiy	68	115	437	102	595	512
Vilyandiskiy	68	110	433	108	589	501
Kingiseppskiy	68	120	436	103	672	503
Kokhtla-Yarveskiy	67	118	428	111	637	447

The time has come to transfer the herds to stables and to plan their winter rations. This transitional period requires particularly efficient work organization and strict control. The farms of the republic have sufficient fodder to switch over to winter keep, without losses. It is very import to winterize the barns now.

During the first eight months of this year, 5 percent more milk was sold to the state than during the same period last year. Since the beginning of the year, the annual plan of milk sales to the state has been fulfilled 73 percent. Milk procurement has increased in all rayons except Khyumaaskiy. The best results have been achieved in Kharyuskiy, Kokhtla-Yarveskiy, Valgaskiy and Vyruskiy rayons.

Meat production and its state procurement are now proceeding well. Since the beginning of the year, 15 percent more slaughter animals and poultry has been sold to the state than last year. During the first eight months, the annual plan for the procurement of slaughter animals and poultry has been fulfilled 71 percent. Here the leaders are the farms of Raplaskiy, Vyruskiy, Rakvereskiy and Khaapsaluskiy rayons.

The average daily weight gains of cattle and hogs likewise are important this year, and the average live weight per head at delivery is higher. During the first eight months, the average daily weight gain of feeder cattle was 583 grams per head, but this was still 19 grams or 3 percent less than last year. The average daily weight gain of fattened hogs was 463 grams per head, 8 grams more than last year. The average live weight per head of cattle at delivery reached 436 kilograms, as compared with 430 last year. For hogs the average live weight per head rose to 108 kilograms, from 105 last year.

During the last months of this year it will be necessary first of all to organize the intensive feeding of cattle, and to raise the daily weight gain of hogs. In a number of the republics, so-called combined silage is prepared for the winter feeding of hogs. Regrettably, many of the farms in our republic are neglecting this fodder. It seems that we should try to prepare such silage since the aftermath is growing well, and there is an adequate supply of vegetable tops and potato vines.

We must consider already now how we will fulfill next year's stepped-up plan for meat production. Only 2,100 calves were produced during the first eight months of this year, 1 percent less than last year. The average has been 67 calves per 100 cows and two-year-old heifers, as compared with 69 calves last year.

On 1 September, the cattle population of the farms in the republic was 2 percent smaller than a year ago. The cattle population declined especially in Kokhtla-Yarveskiy, Raplavskiy and Pylvaskiy rayons. All the rayons should introduce effective measures to improve the organization of the reproduction of their herds.

The production of eggs is proceeding well this year. During the first eight months, 169 eggs were obtained from each layer hen. The production of eggs and their sale to the state were up by 2 percent over 1983. The annual plan has been fulfilled 70 percent.

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## AGRO-ECONOMICS AND ORGANIZATION

### PASKAR' ON STRENGTHENING COST ACCOUNTING IN APK ENTERPRISES

Moscow SEL'SKAYA ZHIZN' in Russian 1 Nov 84 pp 2-3

[Article by T. A. Paskar', first deputy chairman of the USSR Gosplan: "Regulating Cost Accounting"]

[Text] "What measures are being carried out for further strengthening of cost accounting [khozraschet] relations among branches of the agro-industrial complex?" This question has been raised in a number of letters which the newspaper has received. The editorial staff asked the first deputy chairman of the USSR Gosplan, P.A. Paskar', to answer it.

The October (1984) Plenum of the CPSU Central Committee confirmed once again the need to continue persistently in all branches the line toward strengthening conditions for economizing and improving management and the economic mechanism. This work is especially important for workers of the agro-industrial complex. The achievement of the economic indicators earmarked in the country's Food Program depends largely on the smooth arrangement of economic levers and the style and methods of management.

A great deal of significance is attached to the deepening of cost-accounting relations in rural areas. Cost accounting is called upon to provide for unity of the interests of the kolkhozes, sovkhozes, their partners in the APK [agro-industrial complex] and the state, and to increase the incentives for the collective to produce products which are needed by the consumer on the basis of efficient utilization of the production potential that has been accumulated as well as other resources.

But what has been done recently in order for cost-accounting principles to have a full effect in rural areas?

I shall begin with the fact that the relations between the kolkhozes and sovkhozes, on the one hand, and procurement and processing enterprises, on the other, have been placed on a firm cost-accounting basis. In keeping with the decisions of the May (1982) Plenum of the CPSU Central Committee, since the beginning of last year procurement prices have been raised for the main kinds of agriculture products and increments to these prices have been established

for the kolkhozes and sovkhozes that are less profitable or are operating at a loss. Moreover, procurement organizations are paying the farms a 50-percent increment to prices for that part of the product which has been sold to the state in excess of the level reached during the preceding 5 years. The system for withholding the income tax from the farms has been improved.

Conditions have now been created whereby each farm has the opportunity to obtain an income and to increase profitability as a result of increased production, reduced expenditures and intelligent utilization of resources. Many kolkhozes and sovkhozes have skillfully taken advantage of the favorable conditions that have been granted to them. In 1983, the number of farms operating at a loss was reduced to less than one-third the previous number. The overall level of profitability amounted to 21 percent and the amount of profit exceeded 23 billion rubles. Approximately one-third of this sum was obtained because of more effective operation of the kolkhozes and sovkhozes.

The possibilities of interaction between the kolkhozes and sovkhozes and their partners improved considerably with the adoption by the CPSU Central Committee and the USSR Council of Ministers of the decree, "On Improving Economic Relations Between Agriculture and Other Branches of the National Economy." We are speaking about increasing the motivation as a responsibility of all participants in the APK for the final results of agricultural production. The necessary normative documents have been adopted, which regulate the contractual relations of the kolkhozes and sovkhozes with the procurement organizations for procuring agriculture products and with the Sel'khoztekhnika, Sel'khozkhimiya and the USSR Minvodkhoz [Ministry of Land Reclamation and Water Resources] associations -- for delivering material resources and providing service for agriculture.

There is to be property liability of the enterprises and organizations for failure to fulfill contractual commitments. Thus for refusing to receive products within the established deadlines, the procurement organizations pay the kolkhozes and sovkhozes a fine in the amount of 3-5 percent of the value of products that were not accepted, and they also pay for the losses sustained by the farms. And when it comes to perishables, the kolkhozes and sovkhozes are reimbursed for their full value. In cases of incorrect accounts with the kolkhozes and sovkhozes, the procurement workers are obligated not only to transfer the unpaid sums to the farms, but also to pay a fine in the amount of 10 percent and to send 20 percent of the exacted sums to the union budgets.

Strengthening direct ties between kolkhozes and sovkhozes, on the one hand, and procurement and processing enterprises, on the other, is very important. The economy benefits from the efficiency and smoothness of their interrelations, losses of products are reduced, their high quality is maintained, and the products are delivered promptly to the consumer.

The Food Program envisioned completing a changeover in the 12th Five-Year Plan to procuring cattle and poultry, meat, potatoes, vegetables, fruits, berries and grapes directly on kolkhozes and sovkhozes and shipping them from farms with transportation belonging to the procurement organizations. It is necessary to devote more attention to solving these problems locally, and to envision allotting the needed material and technical resources for these aims.

In the future, it will be necessary to practice more extensively the delivery of fruit and vegetable products from the farm directly to the stores, bypassing the fruit and vegetable bases, especially during harvest time. The country has had this kind of experience. According to data of the USSR Central Statistical Administration, in 1983, through direct ties, that is, according to the "field-store" schema, the USSR Minplodoovoshchkhov [Ministry of the Fruit and Vegetable Industry] received 2.1 million tons of vegetables, potatoes and fruits, bypassing the bases and warehouses, which constitutes approximately one-sixth of the overall receipt of these products. Direct ties are developing successfully in Georgia, Moldavia, Sverdlovsk and Lipetsk oblasts, and the Checheno-Ingush ASSR.

But in a number of republics and oblasts this method of providing the population with products has not become sufficiently widespread. In Uzbekistan, Kirghizia and Turkmenia only 7-11 percent of the vegetables are sold through direct ties.

Mutual interest and responsibility are also becoming increasingly typical of the interrelations between kolkhozes and sovkhoses and the enterprises and organizations that serve them. It has been established, for example, that the Sel'khoztekhnika and Sel'khozkhimiya associations, and also water management repair and operation organizations, in all cases in which they have violated contractual commitments, must make reimbursements to the farms in addition to paying fines and penalties and also paying for the losses that they have caused. Stricter time periods have been established within which Sel'khoztekhnika associations must repair machines and equipment that have broken down on animal husbandry farms.

Changes have been made in the policy for the formation and expenditure of the incentive fund at enterprises and organizations of the USSR Goskom-sel'khoztekhnika system: 40 percent of its volume is made dependent on the increase in the gross agricultural product. This same indicator will determine most of the similar fund in the Sel'khozkhimiya associations, and also in the water management repair and operation organizations and the Poliv Association. The corresponding documents have been prepared and are being reviewed by the interdepartmental commission of the USSR Gosplan.

It is known that certain jobs performed by Sel'khoztekhnika, Sel'khozkhimiya and USSR Minvodkhoz associations comprise part of the technological processes in farming and animal husbandry. Accounts for them are now kept depending on the fulfillment of the plans for the production of agricultural products. Instructions are sent to the local areas concerning the list of these jobs and the policy for keeping accounts. The USSR Gosbank has envisioned granting credit for these purposes.

The policy for planning the volumes of repair work in the USSR Goskom-sel'khoztekhnika system has been clarified. At all levels there is to be strict accounting for the orders from kolkhozes and sovkhoses for repair work. These ends, the assignments that are approved by the rayon agro-industrial associations will be consolidated, summed up and included on a separate line in the state plan for the various union republics.

Greater requirements are being placed on enterprises of agricultural machine building and the chemical industry for the quality of the products that they deliver. Starting last year, deductions have been established for deviations from the requirements of the standards for nine kinds of agricultural equipment. The price has been cut in half for four kinds of machines which meet the requirements of the second quality category and have not been certified on time for 1984. Starting with the beginning of next year these deductions will be in effect with respect to eight more types of technical equipment.

On the other hand, there are to be incentives for industrial enterprises to raise the technical level of their products. We are speaking about establishing increments to prices for tractors and the most important kinds of agricultural machinery in an amount of 50 percent of the annual effect obtained from their use, but no more than 10 percent of their wholesale prices. The USSR State Price Committee has developed the policy for establishing the price increments.

Still the economic levers are not always utilized fully as an effective means of increasing the volumes of the output of products and increasing the efficiency of production. Not everywhere have they arranged, in keeping with existing provisions, relations between the kolkhozes and sovkhoses and Sel'khoztekhnika, Sel'khozkhimiya and organizations of the USSR Minvodkhoz.

Shortcomings of this kind are brought about by the fact that frequently priority is given to departmental interests, and not the interests of all partners in the AP<sup>7</sup>. Take this example. The decree of the USSR Council of Ministers, "On the Policy for Planning and Material-Technical Supply in the System of the USSR agro-industrial Complex," and a number of other directive documents have established that the drafts of plans for production and technical service of the farms, repair of technical equipment, and land reclamation and chemization are developed on the basis of orders from the kolkhozes, sovkhoses and their other agricultural enterprises. Nonetheless, in many cases this requirement is not met. There are such violations as arbitrary establishment of planning indicators and increased assignments for profit. The rights of the rayon and oblast agro-industrial associations to establish the rates (tariffs) for technical equipment are not always fully observed.

There is justification for the remarks of SEL'SKAYA ZHIZN' readers to the effect that in a number of places the centralized funds of the agro-industrial associations are still formed primarily at the expense of the kolkhozes and sovkhoses. As for the participation of other enterprises and organizations in this matter, frequently a departmental approach is manifested here and the ministries which have jurisdiction over these enterprises do not always correctly orient them toward mandatory observance of the existing provisions.

Each case of violation of cost-accounting principles in interrelations among the subdivisions of the APK should be given the appropriate evaluation. Here an active position should be taken by the rayon councils of the agro-industrial associations and also the planning and financial services of the

ministries and departments. It is necessary to step up control over the observance of the established policies on the part of local planning and financial agencies as well.

It should be noted that in many agro-industrial associations the centralized funds have already proved to be effective cost-accounting levers. Because of their correct utilization, weaker sections are strengthened and inter-branch disproportions are eliminated.

Improvement of economic relations among branches of the APK presupposes strengthening of the cost-accounting bases in the work of each enterprise as well. We must not allow cases in which, along with an increase in procurement prices and the application of increments to them, the cost of the products also increases. But last year this is precisely what happened with the production of vegetables on a number of kolkhozes of the Azerbaijan SSR. There were greater expenditures on obtaining a ton of milk on the kolkhozes of the Uzbek SSR and the weight gain of cattle on many sovkhoses of the Russian Federation and Kazakhstan. And yet a 1 percent reduction of the production cost of agricultural products on the kolkhozes and sovkhoses is tantamount to saving approximately 1.2 billion rubles in expenditures. The experience of the leading farms show the realistic ways of achieving this effect. By extensively utilizing intrafarm accounts, they are achieving a constant reduction in production costs.

High final results in the system of the agro-industrial complex are achieved under the conditions of the application of collective forms of labor organization, at the basis of which lie cost-accounting principles of incentives. There are now tens of thousands of contracting subdivisions operating on the fields and farms. But it is far from everywhere that the collective contract enjoys the proper amount of respect.

There is also a good deal to do to strengthen cost-accounting principles in the work of the partners of the kolkhozes and sovkhoses. Here, too, one does not always find the proper concern for economizing on material and financial resources and there are non-productive labor expenditures. At the basis of these shortcomings are imperfect planning, inadequate application of progressive norms and normatives, and violations of the requirements of advanced production technology and scientific organization of labor.

In the future, cost-accounting principles should be disseminated even more broadly in all branches of the national economy. This is why it is necessary to achieve high responsibility on the part of each specialist and manager for correct application of them, to increase the qualifications of personnel, and to hold people more strictly accountable for failure to observe economical methods of conducting business.

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## AGRO-ECONOMICS AND ORGANIZATION

### APPLICATION OF PROCUREMENT PRICE MARK-UPS FAULTED

Moscow SEL'SKAYA ZHIZN' in Russian 23 Sep 84 p 2

/Article by A. Zyuzin, chief of a sector of the USSR People's Control Committee:  
"All Is Not Dependent Upon the Mark-Ups"/

/Text/ As is known, the state has allocated considerable resources for strengthening the economies of low-profitability and unprofitable farms and it has established mark-ups for them for adding on to purchase prices. It is expected that this measure will promote the further development of agricultural production and improve the work of backward collectives. The USSR People's Control Committee conducted an inspection to determine just how effectively these resources were being utilized in a number of oblasts in the Russian Federation and it uncovered some serious shortcomings.

The results of this inspection were discussed in the various areas, in the RSFSR Ministry of Agriculture and also during a meeting of the Committee for Agroindustrial Complex Problems of the Presidium of the RSFSR Council of Ministers. However, the people's controllers have revealed that by no means have all of the necessary actions been taken in the various areas for the purpose of eliminating these shortcomings in the distribution and use of the resources allocated by the state. Moreover, these shortcomings are being noted in oblasts other than those in which the inspection was carried out.

In many instances the price mark-ups are being employed successfully in Tambov, Kaluga, Smolensk, Belgorod and Pskov oblasts and also in the Mari ASSR for eliminating the backwardness of farms. Here the agroindustrial associations and agricultural organs are not employing a formal approach for developing and carrying out the organizational-technical measures for lowering the production costs for goods and raising production efficiency at each low profitability or unprofitable farm.

Unfortunately, this informal approach has still not become the norm and as a result the purchase price mark-ups are by no means producing the desired effect. The inspection revealed that many farms did not improve their production and

economic indicators last year and that they continued to operate on an unprofitable basis even following the introduction of the mark-ups. One of the principal reasons for this -- the parasitical stand taken by their leaders and specialists. After being granted certain privileges, they began to concern themselves less with the production operations, in the belief that the mark-ups alone would elevate their elements to the status of leading units. And the agricultural organs did not require them to reorganize their operations.

Of 89 kolkhozes and sovkhoses that were inspected in Belgorod, Kaluga, Pskov and Smolensk oblasts, 72 did not obtain their planned yield of grain and 69 -- their planned yield of potatoes. The milk yields and livestock weight increases were lower than the figures planned at 47 farms, the planned production cost levels for milk and meat were exceeded to a considerable degree at 70 farms and almost one half of these farms failed to obtain the profit expected. Compared to 1982, labor productivity at 24 kolkhozes and sovkhoses even declined. Similar facts were uncovered in the Mari ASSR and in Tambov Oblast.

At many low-profitability and unprofitable kolkhozes and sovkhoses, the organizational-technical measures for normalizing the economy were arrived at in the absence of adequate justification and computations and not all of the indicators called for in them are reflected in the industrial financial plans for 1983 and 1984. In Yartsevskiy Rayon in Smolensk Oblast, for example, the measures of five out of nine such farms contain mainly general appeals, while at the same time measures aimed at raising yields and livestock productivity are not being supported in the form of the necessary resources or specific actions. It was for this reason that the Kolkhoz imeni Lenin failed to fulfill its plan for the production and procurement of grain, meat and milk. Of 176,000 rubles worth of mark-ups obtained, one third was used for covering losses. Similar situations have developed on farms in a number of other oblasts.

In short, many of the inspected low profitability and unprofitable farms failed to make full use of the favorable conditions that had been created for improving their economies. A considerable number of them realized profits not as a result of an increase in the production of goods or a reduction in expenditures, but rather mainly as a result of the mark-ups added on to the purchase prices. In the absence of such mark-ups, 1,050 of the 1,598 kolkhozes and sovkhoses which were inspected and which formerly operated at a loss, would have continued to operate on an unprofitable basis just as in the past. Unfortunately, the RSFSR Ministry of Agriculture still lacks a complete analysis of the status of affairs in this regard for many other oblasts, krays and autonomous republics. And it would be interesting to learn what methods are being used by some farms in order to obtain profit and how the mark-ups are being used for strengthening an economy.

It must be remembered that the increase in purchase prices and the introduction of purchase price mark-ups by themselves cannot fully solve the problem of strengthening the economies of backward farms. Indeed, in many instances the favorable conditions that have been created are negated by mismanagement or large unproductive expenditures and losses. Last year, on farms in Tambov Oblast, such expenditures and losses exceeded 150 million rubles. A loss of 15 million rubles was sustained as a result of livestock losses, with only 141,000 rubles being recovered from the parties that were at fault.

A loss of approximately 13 million rubles occurred here as a result of the sale of low quality agricultural products. On farms in Smolensk Oblast, unproductive expenditures and losses exceeded 102 million rubles. By way of comparison, it can be stated that this sum is greater than the total amount of mark-ups received by the oblast's farms.

Quite often the local soviet and agricultural organs failed to follow the order for assigning mark-ups to the purchase prices, according to which they are to be established only for farms which operate under poor natural-economic conditions and have a total profitability of less than 10 percent. A large number of economically strong kolkhozes and sovkhoses have unjustifiably been designated as being low-profitability and unprofitable establishments as a result of a reduction in their earnings from the sale of products and an increase in the expenditures for producing them. Thus, in Tambov Oblast, for example, the mark-up amounts were inflated by a total in excess of 5 million rubles and there was a decrease by the same amount at 33 farms. The Yaroslavlka Experimental-Production Farm of the oblast's agricultural experimental station had a total profitability of 17 percent. However its leaders, with the connivance of the agricultural organs, intentionally reduced the earnings and exaggerated the expenditures in the accounts that were presented, they understated the production profitability in the accounting data and during 1983 they illegally obtained 236,000 rubles in the form of mark-ups. Similar incidents have been tolerated in the Mari ASSR.

The inspection revealed incidents wherein the soviet and agricultural organs established price mark-ups in such amounts that the profitability of unprofitable farms became considerably higher than that for farms with high production indicators but which were not receiving mark-ups. For example, at the chronically unprofitable Rodina Kolkhoz in Morshanskiy Rayon in Tambov Oblast, the profitability last year was unjustifiably raised to 95.7 percent after mark-ups amounting to 793,000 rubles were obtained. At the same time, the neighboring Burevestnik Kolkhoz, one of the oblast's leading kolkhozes and one which operates under the same natural-economic conditions, had a profitability which was lower by almost twofold.

Certainly, one can readily appreciate the dissatisfaction felt by the chairman of the Burevestnik Kolkhoz I.V. Shurenkov with this status of affairs. Indeed, his farm's grain yield is twice as high as his neighbor, potatoes -- higher by a factor of four and here labor productivity is increasing while on the neighboring farm it is decreasing. At the Burevestnik Kolkhoz, each kopeck is used in a very thrifty manner, whereas the chairman of the Rodina Kolkhoz, A.I. Zatsepin, had no idea as to the amount of mark-ups obtained prior to our discussion.

Owing to a lack of control on the part of the soviet and agricultural organs, many kolkhozes and sovkhoses are assigning only a negligible portion of the income being received from raised purchase prices and the introduction of purchase price mark-ups to the accumulation funds, which serve as the foundation for improving the economic indicators. The remainder is being assigned to the consumption funds. In Pskov Oblast, for example, 35 million rubles have been assigned to the consumption funds. With non-fulfillment of their output production plan by 8 percent, the oblast's farms over-expended their wage fund

by 1.4 million rubles. At the Kolkhoz imeni XXII Parts'yezda in Sampurskiy Rayon in Tambov Oblast, the average monthly wage as a result of the mark-ups increased from 135 to 159 rubles and labor productivity decreased by 6 percent. There are many such examples. At the same time, the negligible contribution to the consumption funds produced a situation wherein many kolkhozes and sovkhoses, just as in the past, remained without their own working capital.

The councils of agroindustrial associations and the agricultural organs must devote more attention to the backward kolkhozes and sovkhoses, they must monitor in a strict manner the "operation" of the mark-ups and they must evaluate the work of the farms not only in terms of their production volumes but also in terms of the price at which these volumes were achieved.

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## AGRO-ECONOMICS AND ORGANIZATION

### FINANCE, CREDIT SYSTEM OF ESTONIAN APK EXAMINED

Moscow FINANSY SSSR in Russian No 9, Sep 84 pp 14-16

Article by E.P. Khyayal, chief of the Administration for the Financing of Agriculture of the Estonian SSR Ministry of Finances: "Economic Mechanism of the Republic's Agroindustrial Complex"/

Text Eighteen percent of all workers in material production are engaged in the agroindustrial complex of the Estonian SSR and the value of their output is 28 percent of the gross product being produced and the fixed productive capital -- 33 percent of the corresponding funds in the republic's national economy. During the 11th Five-Year Plan, the gross output of the APK agroindustrial complex will increase to 2.7 billion rubles, or by 17.4 percent, with an increase in capital investments of 8.3 percent.

Intensification of the reproduction process within the agroindustrial complex is being carried out based upon integration and improvements in the economic relationships between its elements and the extensive introduction of scientific-technical achievements.

Control over the integration processes assumes the development of a long-term all-round program for developing the republic's APK, in which the requirements for agricultural products will be coordinated with existing resources and also with the economic, social, technical, production and organizational measures. In the USSR Food Program, for the period up to 1990, the republic's agro-industrial complex has been assigned the task of increasing meat procurements (in dressed weight) to 215,000 tons annually (an increase of 27.2 percent) and milk -- to 1,315,000 tons (an increase of 19.8 percent).

The plans call for the annual milk yield per cow in the public sector to be raised to 3,825 kilograms and for the average weight of cattle sold for meat purposes to be raised to 411 kilograms. In addition, not less than 244 eggs are to be obtained from each laying hen annually. In order to carry out these tense animal husbandry tasks, the plans call for leading rates to be achieved in the production of feed.

In 1981, in all regions of the republic, a conversion was carried out to a new administrative structure for agriculture and the branches which serve agricultural production -- through the council of a rayon agroindustrial association. Favorable conditions were created for improving the economic

mechanism within the APK system. In 1983, an agroindustrial association was created in the republic which included the organizations and enterprises of the Ministry of Agriculture, Goskomsel'khoztekhnika and also the Ministry of Land Reclamation and Water Management.

The May (1982) Plenum of the CPSU Central Committee, in the interest of creating favorable conditions for the cost accounting activities of sovkhoses, approved a number of measures aimed at strengthening the economies of agricultural enterprises. The purchase prices were raised and mark-ups were established for these prices for products produced under the worst of conditions at unprofitable and low profitability farms. In 1983 the income from this increase in purchase prices at agricultural enterprises in Estonia amounted to approximately 100 million rubles. Within the republic, kolkhoz indebtedness in the amount of 4 million rubles was liquidated by means of the union budget and the payments for loans totaling 6 million rubles were deferred. A considerable increase took place in the internal sources for financing the equipment of agricultural enterprises. In 1983 the profit and net income at Estonian sovkhoses and kolkhozes amounted to approximately 357 million rubles, or higher by almost twofold than the corresponding indicator for 1982.

We are of the opinion that it is impossible to establish prices which would ensure absolutely the same net income (profit) for all of the farms. However the problem concerned with smoothing out the levels for the economic development of enterprises which operate under different natural-economic conditions continues to be an urgent one. In the Estonian SSR, it is being solved for sovkhoses mainly by means of budgetary appropriations for production and non-production construction and the redistribution of the net surplus profit of the sovkhoses. In addition, the republic's agroindustrial association and the rayon agroindustrial associations regulate the management conditions by means of the centralized funds for economic incentives and also with the aid of the mechanism for the planned redistribution of material resources, the limit for contractual work for land reclamation construction and so forth. The purchase price mark-ups and budgetary appropriations for backward kolkhozes are of special importance with regard to equalizing profitability. These funds must be used effectively and on an objective basis which precludes the development of a seniority system or subjectivism. Taking into account the mentioned sources, the republic and rayon agroindustrial associations must in 1984 distribute and redistribute in favor of backward farms resources amounting to more than 90 million rubles, or 24 percent of the funds allocated for financing the expanded reproduction of an agroindustrial association in the Estonian SSR.

However, shortcomings are still being noted within the republic with regard to the use of funds allocated from the budget. For example, in 1983, in Kharyuskiy and Tartuskiy rayons, there were instances of budgetary appropriations intended for low rental farms being assigned to economically strong farms. These mistakes were eliminated during the course of carrying out the budget. Great importance is attached to measures which eliminate such phenomena. Research work is going forward throughout the republic aimed at raising the effectiveness of the mechanism for distributing and redistributing resources in favor of backward farms. At the end of 1983 there were only two farms with a profitability lower than 10 percent.

As increases take place in the financial and material resources allocated for agricultural development and for strengthening the economic status of agricultural enterprises, the role played by the financial-credit mechanism will increase in importance. This mechanism regulates the relationships between the farms and the state, aided by the purchase prices, budgetary financing, the issuing of credits, taxation, the distribution of profit and net income at sovkhoses and kolkhoses and state insurance on their property. On the whole, all of these levers must ensure a firm financial status for the farms. At the present time, budgetary financing is being employed as a rule for the construction of milk production complexes, land reclamation installations and projects of a cultural-domestic nature. On economically weak farms which lack their own resources, capital investments are also carried out by means of the budget. Thus budgetary financing promotes a strengthening of the kolkhoz and sovkhos economies, an increase in the production of goods and an acceleration in the conversion of agricultural production to an industrial basis.

Many new farms, including large ones for 800-1,000 head, have been built throughout the republic using internal and budgetary funds and bank credits. The majority of the farms were developed for maintaining 400-600 head, with 81 percent of the cows and 89 percent of the hogs being maintained in modern mechanized facilities. A high level of labor productivity has been achieved at the new and modernized farms through the mechanization of production processes.

However the present system for the financing of capital investments is not free of shortcomings. They weaken the stimulating effect of the financial-credit levers with regard to raising the effectiveness of capital investments. In accordance with the existing system, projects are classified as being financed by the budget or not financed by the budget, depending upon whether or not the agricultural enterprises have their own funds for the given purpose and also upon the amount of such funds. Budgetary resources for capital investments are often allocated to farms which have their own resources and credits -- to low-profitability or unprofitable farms. It is considered advisable to convert over from objective to normative methods for planning capital investments, which call for the maintenance of a definite level of capital supply with the aid of the budget and beyond this level -- by means of internal resources and bank credits. The normative indicator should be introduced into the long-range plans for the development of agricultural enterprises and the capital investment volumes should be distributed among the farms based upon this indicator and also taking into account the farm specialization.

An economically favorable regime is being created today mainly as a result of centralized budgetary redistributions, which ensure and which stimulate high and stable rates for the intensification of agricultural production and which regulate the proportions for developing the branches of the national economy and the equivalence of an exchange between them. However, we are of the opinion that this system has a number of shortcomings, mainly owing to the fact that at times a weakening is noted in the intra-branch and inter-branch economic stimuli and cost accounting principles. It would seem that the indirect price forms and methods for stimulation should gradually be eliminated in the future.

Since the agricultural enterprises are no longer being compensated for the difference in prices for automobile gasoline and other petroleum products,

which arose in connection with the introduction in 1982 of new wholesale prices and rates, during 1983 they paid for these expenditures using their own resources. In view of this fact, the purchase prices for agricultural products in our republic were raised commencing on 1 January 1983. Naturally, the enterprises must use these resources in an especially zealous manner.

Within the economic mechanism, a considerable role is played by credit relationships. Loans are made available for the carrying out of sowing and harvest operations, for acquiring seed, feed, fuel and lubricating materials, mineral fertilizers and chemicals, for the purchasing and maintenance of livestock and for wages and other production expenses, in keeping with a seasonal shortage of internal resources.

In recent years the expenses for the issuing of loans have been increasing at excessive rates compared to the yield in products. This is the result of unfavorable weather conditions, a disparity between the purchase prices and production costs and also shortcomings in the work of the farms themselves: inefficient use of land, excessive growth in wages compared to labor productivity and losses caused by mismanagement. The shortcomings in economic activity are the reasons for unprofitable operations and for losses in internal working capital. In this instance, Gosbank extends temporary special purpose loans even in the face of overdue indebtedness. But such loans engender parasitical tendencies in many farm leaders and they weaken financial and payment discipline. Some farms carry out expanded reproduction completely on the basis of loans.

In our opinion, a system of loans for current production expenditures should ideally be established only with the participation of internal resources. Towards this end, the kolkhozes must have a normative for internal working capital similar to the sovkhozes and they must use withdrawals from gross income for augmenting the fixed and working capital, as part of the indivisible funds, the economic incentive funds and reserve and other funds.

The normative for internal working capital at kolkhozes must amount to not less than 50 percent of the planned expenditures carried over to the following year for unfinished production (harvest and output of the next year), young stock and animals left over for fattening, commodity-material values and other working capital. This would promote a strengthening of cost accounting, improvements in planning and financial-economic activity and the creation of the conditions required for timely wage computations and also with the suppliers and contractors.

Deserving of attention is the system wherein agricultural raw materials turned over for processing at a particular farm are included in the production costs for industrial output according to the purchase prices. As a result, an increase takes place on the farms in the sales volume and in the production costs (repeated computation of the production cost) and a decrease takes place in profitability and in budgetary withholdings from the budget and net income. Thus, at the Ranna Sovkhoz, the entire output of poultry raising is being processed on a farm. Following the introduction of the mentioned system in 1983, the production cost here increased by more than twofold, profitability decreased from 90.7 to 42.2 percent and payments into the budget decreased from



2,046,000 to 314,000 rubles. It is believed that such an increase in production cost is illegal and should be eliminated by changing the instruction on taxing the profits and net income of agricultural enterprises.

Managerial experience proves that the carrying out of economic decisions in production-economic work requires the skilful use of economic levers and incentives. In the process, improvements in the economic mechanism of the APK are considered to be of great importance.

It is our opinion that the effectiveness of the economic mechanism is dependent upon whether or not the normative base was formed in a sound manner. The scientifically sound expenditures for resources per unit of output must be determined in a physical (for example, feed expenses per unit of increase in cattle weight) or cost sense. When using these norms, the republic agro-industrial association must function on the basis of cost accounting principles, bearing complete economic responsibility for the results of its economic activities. The relationships between the republic and rayon APK /agro-industrial complex/ levels, rayon agroindustrial associations and farms and between the agricultural and service enterprises must be developed on a normative-contractual basis with mandatory mutual responsibility. In the process, more importance will be attached to the economic methods of control. It is expected that the optimum solutions found at the republic level, taking into account the changing circumstances from year to year, will be realized at the rayon and other levels, by means of economic normatives and levers which will have a planned effect on the interests involved.

We are of the opinion that the economic mechanism must call for a gradual conversion over from a multiple-channel system of state expenditures for the production, procurement and processing of agricultural products to a single wholesale price for the final product. Stimulation by means of a system of prices and the complete use of agricultural raw materials during industrial processing will make it possible not only to lower the production costs for food goods but in addition it will also increase their resources.

Improvements in the economic mechanism as a totality of managerial forms and methods, organizing control over public production and exerting a conscious effect on it will promote further improvements in the work being performed by the republic's APK.

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## AGRO-ECONOMICS AND ORGANIZATION

### DYNAMICS OF BALANCE WITHIN APK INFRASTRUCTURE DISCUSSED

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 9, Sep 84 pp 89-93

[Article by V. Balabanov, senior scientific associate, Institute of Economics, USSR Academy of Sciences: "Problems in the Proportionality and Balance of the APK [Agro-industrial complex]"]

[Text] The contemporary agro-industrial complex, a component part of the material-technical base of developed socialism, is an extremely complicated and qualitatively new subsystem of the national economy. It is sufficient to note that the value of its fixed capital exceeded 400 billion rubles and equalled 30 percent of the national economy's entire productive capital. Forty percent of the working population is employed in the APK and its final output accounts for about 75 percent of all retail trade turnover. The share of agricultural output delivered to industry for processing now reaches 60.2 percent. It is used by more than 80 sectors of the national economy. Agriculture itself requires the output of other sectors: more than 80 percent of agriculture's fixed productive capital is of industrial origin.

The main task for the APK is to most completely meet the population's needs for food products and consumer goods at minimum production outlays.

The USSR Academy of Sciences' Institute of Economics has conducted a great deal of methodological and research work on determining the value and structure of the APK's final and net product (Table 1.)

Table 1. Structure and Dynamics of APK Final and Net Product (Percent of total)

Stage of Agro-industrial Production	Final Product*		Net Product	
	1966-1970	1976-1980	1966-1970	1976-1980
Production of means of production	8.1	27.8	—	—
Agricultural production	6.2	54.2	80.8	75.2
Production of consumer goods from agricultural raw materials:				
Foodstuffs	8.3	8.3	10.1	13.6
Non-foodstuffs	4.7	4.6	5.8	6.3
APK output sold to consumers	8.5	3.6	4.3	7.3
APK output sold to consumers	6.0	8.2	7.3	13.2
Production-technical services to APK	1.4	1.5	1.8	2.2

\*For methodology of calculating APK final product, see VOPROSY EKONOMIKI, No 1, 1979, pp 81-91.

The analysis of these data show that between 1966 and 1980 there was a marked improvement in the APK's functional structure: the share of agricultural production declined from 66.2 percent during 1966-1970 to 54.2 percent during 1976-1980, while the relative share of means of production grew from 18.1 percent during 1966-1970 to 27.8 percent during 1976-1980. There was also a tendency towards strengthened linkages between the production, processing and sales of agricultural output.

The basic share of APK final product (54.2 percent) is still produced in agriculture. This indicates that the structure of the APK will continue to improve.

Among the conditions for transforming the APK into a highly developed sector of the economy, special importance is given to strengthening the proportionality and balance in its development and to a national economic approach to the organization of production and economic ties between its partners.

We are not just talking about proportionality as an unvariable structural state of production, but, on the contrary, about the dynamic and flexible nature of proportions best meeting social needs. Since social needs and the conditions for their satisfaction are constantly changing, proportions in the development of APK sectors should be very flexible.

Just what should be the proportionality of APK sector development? In our view the APK's proportional development presumes a scientifically based interdependence in the development rates of all its sectors, the assurance that each element have optimal levels of profitability and that there be a unity and equality of all partners' interests in attaining the best final results.

Thus, the attainment of proportional, balanced development in the APK is a large and complicated problem. It includes the equalization of the material-technical and socio-economic conditions in the development of all sectors and elements of agro-industrial production.

The exceptional urgency of assuring stable balance between the basic elements in the agricultural labor process and between all APK elements is due to its being a major factor in production intensification, something the party considers as the turnpike for the development of the entire economy and improvements in its efficiency. As comrade K. U. Chernenko noted at the special plenum of the CPSU Central Committee: "The intensification, accelerated production introduction of scientific and technical achievements and the implementation of large, comprehensive programs should all, in the final account, be understood as a qualitatively new level in our society's productive forces."\*

The contemporary stage of economic development is characterized by the transition from the intensification of some sectors to universal intensification, assuring substantial improvements in the productivity of social labor based upon the maximum savings of embodied and live labor. Under these conditions the attainment of complete and dynamic balance in the development of agricultural production and the APK in general is the main feature and at the same time a qualitatively new intensive type of production. It is to assure not only high

\* "Materialy vneocherednogo Plenuma Tsentral'naya Komiteta KPSS, 13 Fevralya 1984 goda" [Materials of the Special CPSU Central Committee Plenum, 13 February 1984] M. Politizdat, 1984, p 14.

quantitative growth rates in production, but also its qualitative restructuring in order to create more favorable economic and organizational conditions for scientific and technical progress, without which improved efficiency is impossible. A solution to this large and complicated problem requires a new approach to problems of proportionality, specifically, the intensified orientation of proportions to the attainment of high final results and to the complete satisfaction of social needs.

It is these circumstances which make necessary the quantitative commensurability in the distribution of capital investments, means of production and labor power between sectors and spheres of the APK. As society's needs change there are also changes in the amount of labor expended, the structure of material wealth produced and in proportions (quantitative and qualitative). However, proportionality has still not been attained in the APK's development. This is shown by an analysis of the structure and dynamics of APK material-technical resources and services created in its first sphere (Table 2.).

Table 2. Structure and Dynamics of APK Material-technical Resources and Services (in current prices)

Structure of Services	1966-1970		1971-1975		1976-1980	
	<u>Billion rubles</u>	<u>Percent</u>	<u>Rubles</u>	<u>Percent</u>	<u>Rubles</u>	<u>Percent</u>
Material-technical resources and services	15.9	67.8	30.9	72.5	44.5	71.4
Including:						
Agriculture	9.6	40.7	20.4	47.9	31.6	50.6
Sectors, processing agricultural products	4.4	18.7	8.0	18.7	9.4	15.1
Service sphere sectors	1.4	5.9	1.7	4.0	2.4	3.8
Transport and communications	0.6	2.5	0.8	1.9	1.2	1.9

As the data in the table show, compared to 1966-1970, during 1976-1980 the volume of material-technical resources and services grew: almost 3 fold in agricultural production, more than 2 fold in sectors processing agricultural output, 1.7 fold in the circulation sphere and 2 fold in transport and communications.

At the same time there were sizable gaps in the growth rates for material-technical resources and services in various APK elements. Thus, during the Eighth Five-Year Plan the volume of material-technical resources and services to agriculture amounted to 40.7 percent of all resources and services, while during the Tenth Five-Year Plan it was 50.6 percent; for sectors processing agricultural output the figures were 18.7 and 15.1 percent, for circulation sphere sectors, 5.9 and 3.8 percent, while for transport and communications they were 2.5 and 1.9 percent. Thus, although one observes an absolute

and relative increase in the volume of material resources and services for agricultural production, in some APK sectors there have been declines in growth rates. Such a situation causes disproportionalities in conditions of reproduction and reduces the efficiency of scientific-technical progress in the APK.

Data on the structure of capital investments also indicate insufficient proportionality in the development of the APK's material-technical base. Thus, for the main sectors participating in the country's Food Program, capital investments during the Tenth Five-Year Plan increased 30.2 percent over the Ninth, including a 32 percent increase in agriculture (for the entire complex of operations), in the food industry the increase was only 2 percent, in the meat and dairy industry — 9.6 percent and in the flour milling, groat and mixed feeds industry — 13.6 percent, leading to reductions in the growth rates for final output.

In spite of there being a sharp increase in capital investments in agriculture after the March (1965) CPSU Central Committee Plenum, markedly raising the levels of equipment availability in this sector, there remains the urgent problem of creating a material-technical base at kolkhozes and sovkhoses which would meet contemporary production demands. The following calculations are, in particular, evidence of this. According to scientific studies, in order to complete the comprehensive mechanization of agriculture and perform work within agrotechnically optimal time frames, the energy available to agriculture should amount to about 60 h.p. per worker. In 1980 it was only 26 h.p. There are 248 h.p. available per 100 hectares of crop area, while the optimal figure is 500 h.p. Agriculture's mechanization needs are not completely met. Thus, requirements for grain combines are only two-thirds met, those for potato harvesters, little more than four-fifths, for general purpose plows, two-thirds, grain drills — 70 percent, beet harvesters — 60 percent, hay balers and bale stacker-haulers — 10 percent, manure spreaders — 25 percent, and mineral fertilizer applicators — 60 percent met.

The expanded technical modernization of agriculture is delayed by disproportions between power and working machinery, and between the production of tractors and the assortment of essential machinery. The system of machines for the comprehensive mechanization of agricultural production approved for 1981-1985 provides that the K-701 tractor have 92 types of machinery and attachments. However, because only 19 are being produced, only half of the potential annual operating time of these machines is utilized.

There is insufficient balance in mineral fertilizer production. The optimal ratio of nitrogen, phosphate and potassium, in terms of 100 percent nutrient content, should be: 1:0.85:0.68. In 1980 the actual figure was 1:0.57:0.59. One of the reasons for this situation is industry's failure to completely meet agriculture's needs for mineral fertilizers. Agriculture is now getting only a little more than one-fourth of the phosphate and one-third of the potassium fertilizers it needs.

Transport is the weakest link in the APK. At the beginning of the current five-year plan only 20 percent of agricultural enterprises had 8.8 kilometers of hard surface intrafarm roads.

Insufficient proportionality in the development of the material-technical base for APK sectors leads to losses in agricultural output. Thus, according to some experts' estimates, losses of agricultural production from undeveloped APK production infrastructure amount to 12-13 percent of this sector's gross output. The struggle against production losses throughout the entire sequence of production, processing, storage, transportation and maximum use of what has been grown and produced is a huge reserve for increasing agricultural output and improving the population's food supplies.

In order to liquidate the disproportions in APK sector development, the state is taking measures to further strengthen its material-technical base, allocating sizable capital investments for these purposes. There are higher growth rates for investments in APK industrial sectors and in production and social infrastructure. During 1981-1990 the growth in capital investments for the entire APK will amount to about 30 percent of their total growth in the national economy. Investments in tractor and agricultural machinery building and animal husbandry and feed processing machinery will more than double, road construction will increase 1.9 fold and communal services in the countryside -- 3.3 fold. This will make possible the creation of a modern industrial base for the intensification and balanced development of all APK sectors.

The intensive growth of material-technical resources in agriculture and other APK sectors makes it especially urgent to thoroughly accelerate the introduction and use of the latest achievements of science and technology and to work out a scientifically based methodology for determining the size and rational structure of the machine and tractor park. The need for a most rapid solution to this problem is dictated by the fact that at the majority of kolkhozes and sovkhoses the machine and tractor fleet is being formed without scientifically based studies. Farms frequently acquire what is offered by Sel'khoztekhnika, regardless of whether or not they need it or if it is efficient. Hence, there is the paradoxical phenomenon of an increasing number of tractors and machines on farms, but the economic effect from their use is frequently insignificant. For agricultural equipment outlays to be paid off and for it to have the required effect, its use should be accompanied by substantial growth in yields and animal productivity. If this does not occur, output prime costs increase and farm incomes decline.

Moreover, there are still no solutions to such important problems as the determination of economically justified times for servicing agricultural equipment and optimal depreciation norms.

As is known, the technical potential of kolkhozes and sovkhoses is now estimated by the power available per worker and per 100 hectares of agricultural land. However, this quantitative approach to determining the equipment available to farms has shortcomings. For example, it does not give an objective evaluation of the material-technical conditions for production on various farms: the structure of the machine-tractor park, its appropriateness to the farm's specialization; labor and production organizational standards, the quality of engineering services, the availability of skilled personnel, etc.

Experience shows that it is impossible to solve scientific-technical and economic problems without taking into account all factors in intensification. In the past 15 years there have been declines in important indicators of machine and tractor use such as the shift factor and annual output.

Because of poor operation and storage, agricultural equipment often breaks down prior to its normal service life. Studies show that the average service life for tractors is 7-8 years and for grain combines -- 6-7 years, considerably lower than norms. The practical result of reduction in equipment service life is that deliveries of new combines mainly go to replace machines which have been written off and not to increase their numbers.

Improvements in agricultural equipment use are a substantial reserve for output growth. Reductions in the time needed to perform agricultural operations will make it possible to obtain an additional 15-20 billion rubles worth of agricultural output.

The practical implementation of scientific-technical progress in the APK and its economic effectiveness depend directly upon the organizational and economic conditions of expanded reproduction.

In accordance with the decisions of the CPSU Central Committee May (1982) Plenum, the party and government passed a number of important decrees which elevate the economic mechanism and the entire system of managing agriculture and the APK to a new level. It is sufficient to note such important measures as the delineation of the APK as an independent object of planning and management, improvements in the economic relations of kolkhozes and sovkhoses with their partners, the creation of new management organs in the countryside, the strengthened material and moral interest of agricultural workers in the results of their labor, etc.

The main goal in the improvement of the economic mechanism is to strengthen the orientation of all management activity towards achieving high final results and towards the more complete satisfaction of the Soviet people's growing demands.

The measures taken to improve the agroindustrial complex's economic mechanism had a positive effect on the agricultural economy. In 1983, in spite of unfavorable weather conditions, kolkhozes and sovkhoses increased their production. However, there are still a number of unsolved problems relating to improvements in the economic mechanism, the overcoming of departmental fragmentation of APK partner interests. Enterprises in Soyuzsel'khoztekhnika, Soyuzsel'khozkhimiya, and the USSR Ministry of Land Reclamation and Water Resources sometimes plan their work and service volumes without taking kolkhoz and sovkhos needs into account. The present economic mechanism operates in a manner such that the APK's main element, agriculture, falls into less favorable conditions than its partners. As a result the producing and processing sectors have higher profitabilities than agriculture. From 1966 to 1980 the latter's profitability was 13.3 percent, while in sectors processing its output the figure was more than 28 percent.

Prices are one of the tools for equalizing the cost accounting conditions for reproduction and for satisfying economic interests. The APK's balanced development is impossible without an economically justified price ratio for the products of all sectors in the complex, especially between prices for industrial means of production and services and purchase prices for agricultural output. The relationship between the indices for these two types of prices shows that in spite of repeated increases in the prices for agricultural output, their growth lags substantially from the growth rates of prices for industrial means of production and services rendered to kolkhozes and sovkhozes. From 1970 to 1980 total prices for industrial means of production and services grew by 40.4 percent, while those for agricultural output only grew by 17.9 percent. Material-technical resource price increases are one of the main reasons for increases in agricultural output prime costs. More than 57 percent of the total growth in kolkhoz production outlays during the 10th Five-Year Plan is related to price increases for the means of production and services.

The price balance between industry and agriculture should be improved by the 1 January 1983 increase in purchase prices for the most important types of agricultural output and by the introduction of mark-ups on purchase prices for output sold to the state by low profitability and money losing farms. These mark-ups total 16 billion rubles annually. In addition, compensation to agriculture for additional farm outlays due to the 1 January 1982 increase in wholesale prices for industrial production and for the earlier gasoline price increase have been abolished. These outlays are now compensated by an additional 5 billion ruble annual increase in purchase prices. The purchase price increases and mark-ups total 21 billion rubles.

Such economic measures create more favorable conditions for improving agricultural production efficiency. However, further improvements in the principles of price formation for APK output are needed to assure price balance between industry and agriculture.

Other economic tools (an income tax on kolkhozes, credits, payments for fixed capital, etc) also have an important role in the creation of an effective APK economic mechanism.

Improvements in the scientific basis of plan-orders regulating the supply of industrial means of labor to agriculture and the purchase of agricultural output are one of the urgent problems, the solution of which is essential to dynamic balance in APK development. The consumer sectors should have priority in determining the volume, structure, quality and assortment of output and services provided. In our view, plan-orders should be the basis of the production plan, which should be clearly formulated and fix all proposals of the consumer sector for the quantitative and qualitative characteristics of the means of production and services. In the future the relations between APK sectors should, apparently, develop on the basis of direct long-term contracts and economic ties. This will assure a correspondence between material-technical resources and the production and purchase of agricultural output and will create more favorable conditions for the combination of long-term production programs with day to day management of the production process.



As practice shows, one of the most important conditions for improving sectors' responsibility and interest in APK final results is for kolkhozes, sovkhozes, the food industry and the sector's infrastructure to more actively influence the quality of industrial products. Unsatisfactory feedback between agriculture and the capital producing sectors directs technical progress in the APK primarily along an evolutionary path based on improvements in traditional technology. Although the modernization of existing technology will continue to have a place, in the future the main role, determining the direction of technical progress, will belong to the creation of fundamentally new agricultural technology. The facts show that progressive types of machinery and tractors are very slowly introduced into production. It sometimes takes about 15 years from the inclusion of a new design in the system of machinery to the beginning of its operation.

Solutions to these and other questions in the further improvement of the APK's economic mechanism will create more favorable conditions for the balanced development of its sectors, the strengthening of their production and economic collaboration and for solving the country's Food Program.

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## FORESTRY AND TIMBER

### PARTY COMMITTEE REVIEWS TIMBER PROCUREMENT DEFICIENCIES

Moscow LESNAYA PROMYSHLENNOST' in Russian 3 Jul 84 p 1

[Article: "What Is Needed to Improve Timber Shipments"]

[Text] The Party Control Committee has examined data from a check of the work of USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry [Minlesbumprom] regarding the accomplishment of party and government directives for providing the national economy of the country with lumber.

The committee pointed out that the ministry did not take proper measures to increase procurement and delivery of timber, to utilize timber resources rationally, or to improve transport of wood products.

The lumber industry's productive capacities are not fully utilized. The plan for procurement and shipping of timber regularly goes unfulfilled. The volume of timber purchases has been reduced by 30 million cubic meters, down to the 1975 level. Capital investments earmarked for construction and installation operations are not being assimilated, and the plan to introduce new capacities into timber shipping is not being fulfilled. The industry has too few roads which are fit for year-round use, and existing roads are not used to full capacity. There are great losses of timber resources during felling operations.

The technical re-equipment of the industry is proceeding at decelerated rates. The level of mechanization in lumber operations is insufficient and the coefficient of use for existing equipment is low. Incorporation of mechanizing equipment is not supported by repair depot development.

Insufficient attention is given to labor resource utilization, organization of labor and correlation and dissemination of advanced experience. A manpower drain from the lumber industry is being tolerated. Unproductive expenditures of work time are great. Labor turnover is high because of dissatisfaction with working and living conditions.

In connection with overexpenditure of timber during sawmill operation, and for construction, and repair and operational needs, a great quantity of commercial timber is drawn off from the planned allocation by USSR Minlesbumprom enterprises everywhere. Significant shortfalls are tolerated during shipment

of timber products. Idle time for railroad cars used for loading operations is increasing and is exceeding the norm. The plan for shipping bundled timber products via exit routes and stepped routes is not being fulfilled. Backhauls still exist.

The Party Control Committee noted that the Ministry of Railways is not meeting timber shipment assignments. The USSR State Planning Committee (Gosplan) has not balanced out the plans for production and shipment of timber, and provisions for their transport. USSR Gossnab has not taken the necessary measures to improve timber shipments to the national economy of the country.

The committee has taken under consideration the announcements of Minlesbumprom Minister Mikhail Ivanovich Busygin, USSR Ministry of Railways Deputy Minister Valeriy Nilolayevich Butko, USSR Gosplan Deputy Chairman Anatoliy Ivanovich Lukashov and USSR Gossnab Deputy Chairman Anatoliy Nazarovich Lebed' that they will take measures to eliminate the above-mentioned deficiencies. Directors of the appropriate ministries and state committees have been commissioned to report on the adopted measures to the Party Control Committee.

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END